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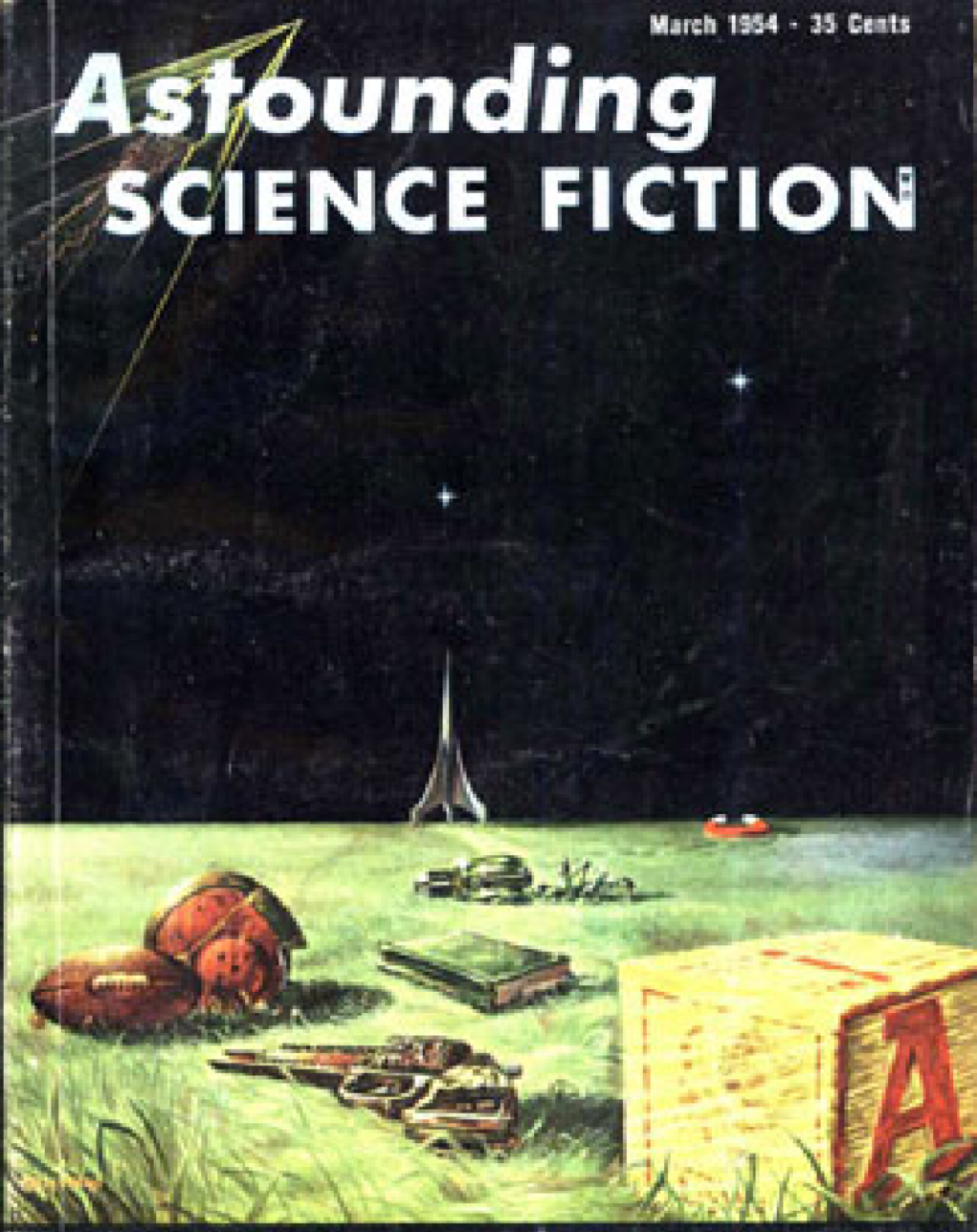


Immigration BY CLIFFORD D. SIMAK

STREET & SMITH'S Astounding SCIENCE FICTION MARCH 1954

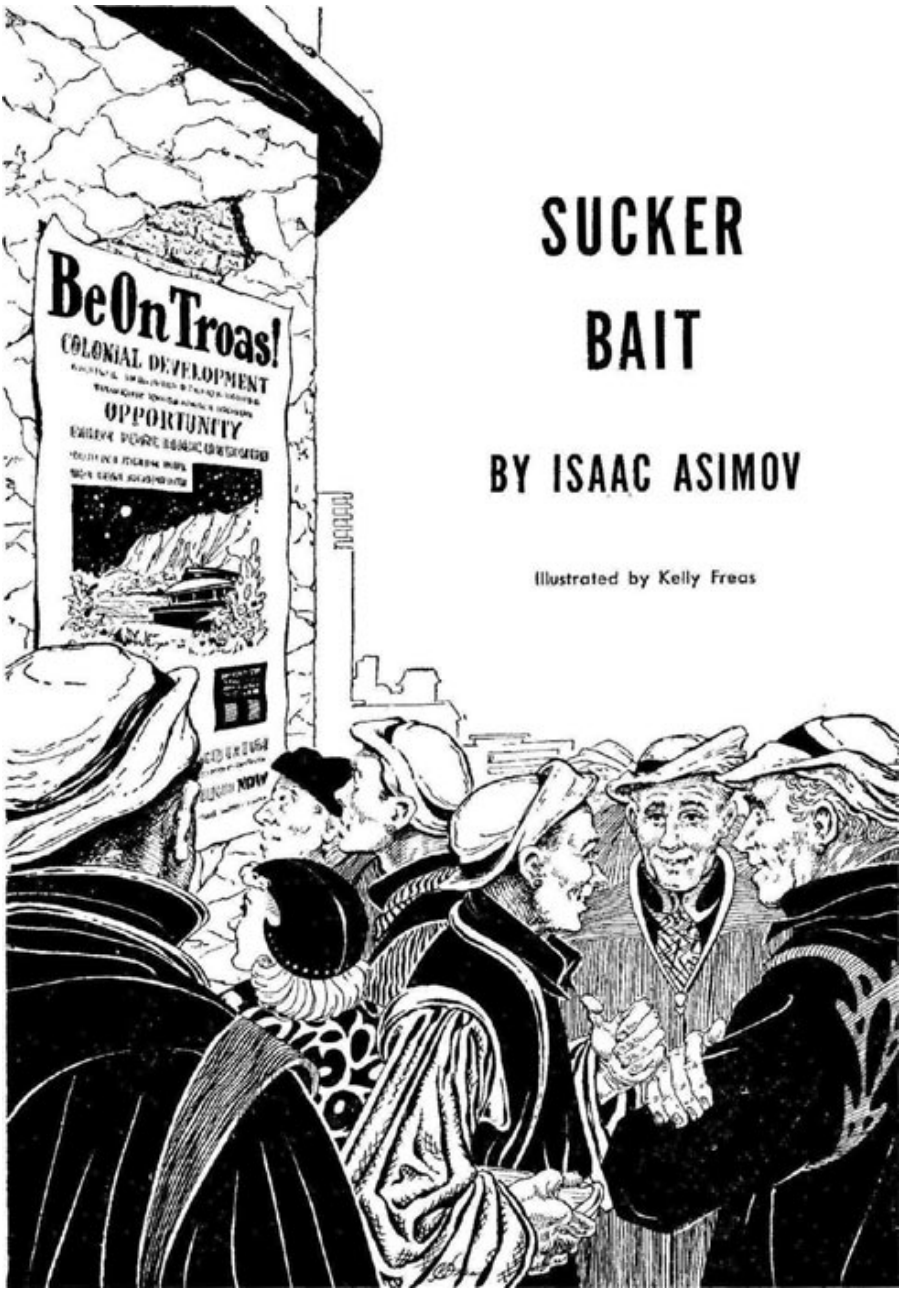
SHOUT
SHARE
IT

Annotation

A fair green planet will always be bait to the interstellar explorer-colonist type. But when a planet has some mysterious killer-characteristic—then it's "sucker bait"!

- Sucker Bait
  - ○

Sucker Bait
by Isaac Asimov



Illustrated by Kelly Freas

The ship, *Triple G,* flashed silently out of the nothingness of hyperspace and into the all-ness of space-time. It emerged into the glitter of the great star-cluster of Hercules.

It poised gingerly in space, surrounded by suns and suns and suns, each centering a gravitational field that wrenched at the little bubble of metal. But the ship's computers had done well and it had pin-pricked squarely into position. It was within a day's journey—ordinary space-drive journey—of the Lagrange System.

This fact had varying significance to the different men aboard ship. To the crew it was another day's work and another day's flight pay and then shore rest. The planet for which they were aiming was uninhabited but shore rest could be a pleasant interlude even on an asteroid. They did not trouble themselves concerning a possible difference of opinion among the passengers.

The crew, in fact, were rather contemptuous of the passengers, and avoided them.

Eggheads!

And so they were, every one of them but one. Scientists, in politer terms—and a heterogeneous lot. Their nearest approach to a common emotion at that moment was a final anxiety for their instruments, a vague desire for a last check.

And perhaps just a small increase of tension and anxiety. It *was* an uninhabited planet. Each had expressed himself as firmly of that belief a number of times. Still, each man's thoughts are his own.

As for the one unusual man on board ship—not a crewman and not really a scientist—his strongest feeling was one of bone-weariness. He stirred to his feet weakly and fought off the last dregs of spacesickness. He was Mark Annuncio, and he had been in bed now for four days, feeding on almost nothing, while the ship wove in and out of the Universe, jumping its light-years of space.

But now he felt less certain of imminent death and he had to answer the summons of the captain. In his inarticulate way, Mark resented that summons. He was used to having his own way, seeing what he felt like seeing. Who was the captain to—

The impulse kept returning to tell Dr. Sheffield about this and let it rest there.

But Mark was curious, so he knew he would have to go.

It was his one great vice. Curiosity!

It also happened to be his profession, and his mission in life.

Captain Follenbee of the *Triple G* was a hard-headed man. It was how he habitually thought of himself. He had made government-sponsored runs before. For one thing, they were profitable. The Confederacy didn't haggle. It meant a complete overhaul of his ship each time, replacement of defective parts, liberal terms for the crew. It

was good business. Damned good business.

This run, of course, was a little different.

It wasn't so much the particular gang of passengers he had taken aboard. (He had expected temperament, tantrums and unbearable foolishness but it turned out that eggheads were much like normal people.) It wasn't that half his ship had been torn down and rebuilt into what the contract called a "universal central-access laboratory."

Actually, and he hated the thought, it was "Junior"—the planet that lay ahead of them.

The crew didn't know, of course, but he, himself, hard-head and all, was beginning to find the matter unpleasant.

But only beginning—

At the moment, he told himself, it was this Mark Annuncio, if that was the name, who was annoying him. He slapped the back of one hand against the palm of the other and thought angrily about it. His large, round face was ruddy with annoyance.

Insolence!

A boy of not more than twenty, with no position that he knew of among the passengers, to make a request like that.

What was behind it? *That* at least ought to be straightened out.

In his present mood, he would like to straighten it out by means of a jacket collar twisted in a fist and a rattle of teeth, but better not—

After all, this was a curious kind of light for the Confederacy of Worlds to sponsor, and a twenty-year-old, over-curious rubberneck might be an integral part of the strangeness. What was he on board *for?* There was this Dr. Sheffield, for instance, who seemed to have no job but to play nursemaid for the boy. Now why was that? Who *was* this Annuncio?

He had been spacesick for the entire trick, or was that just a device to keep to his cabin—

There was a light burning as the door-signal sounded.

It would be the boy.

Easy now, thought the captain. *Easy now.*

Mark Annuncio entered the captain's cabin and licked his lips in a futile attempt to get rid of the bitter taste in his mouth. He felt lightheaded and heavy-hearted.

At the moment he would have given up his Service status to be back on Earth.

He thought wishfully of his own familiar quarters; small but private; alone with his own kind. It was just a bed, desk, chair, and closet, but he had all of Central Library on free call. Here there was nothing. He had thought there would be a lot to learn on board ship. He had never been on board ship before. But he hadn't expected days

and days of spacesickness.

He was so homesick he could cry, and he hated himself because he knew that his eyes were red and moist and that the captain would see it. He hated himself because he wasn't large and wide; because he looked like a mouse.

In a word, that was it. He had mouse-brown hair with nothing but silken straightness to it; a narrow, receding chin, a small mouth and a pointed nose. All he needed were five or six delicate vibrissae on each side of the nose to make the illusion complete. And he was below average in height.

And then he saw the star-field in the captain's observation port and the breath went out of him.

Stars!

Stars as he had never seen them.

Mark had never left the planet Earth before. (Dr. Sheffield told him that was why he was spacesick. Mark didn't believe him. He had read in fifty different books that spacesickness was psychogenic. Even Dr. Sheffield tried to fool him sometimes.)

He had never left Earth before, and he was used to Earth's sky. He was accustomed to viewing two thousand stars spread over half a celestial sphere with only ten of the first magnitude.

But here they crowded madly. There were ten times the number in Earth's sky in that small square alone. And *bright!*

He fixed the star-pattern greedily in his mind. It overwhelmed him. He knew the figures on the Hercules cluster, of course. It contained between one million and ten million stars—no exact census had been taken as yet—but figures are one thing and stars are another.

He wanted to count them. It was a sudden overwhelming desire. He was curious about the number. He wondered if they all had names; if there were astronomic data on all of them. Let's see—

He counted them in groups of hundreds. Two—three—He might have used the mental pattern alone, but he liked to watch the actual physical objects when they were so startlingly beautiful. Six—seven—

The captain's hearty voice splattered over him and brought him back to ship's interior.

"Mr. Annuncio. Glad to meet you."

Mark looked up, startled, resentful. Why was his count being interrupted.

He said, irritably, "The stars!" and pointed.

The captain turned to stare. "What about them? What's wrong?"

Mark looked at the captain's wide back and his overdeveloped posterior. He looked at the gray stubble that covered the captain's head, at the two large hands with thick fingers that clasped one

another in the small of the captain's back and flapped rhythmically against the shiny plastex of his jacket.

Mark thought: *What does* he *care about the stars? Does* he *care about their size and brightness and spectral classes?*

His lower lip trembled. The captain was just one of the noncompos. Everyone on ship was a noncompos. That's what they called them back in the Service. Noncompos. All of them. Couldn't cube fifteen without a computer.

Mark felt very lonely.

He let it go—no use trying to explain—and said, "The stars get so thick here. Like pea soup."

"All appearance, Mr. Annuncio." (The captain pronounced the "c" in Mark's name like an "s" rather than a "is" and the sound grated on Mark's ear.) "Average distance between stars in the thickest cluster is over a light-year. Plenty of room, eh? Looks thick, though. Grant you that. If the lights were out, they'd shine like a trillion Chisholm points in an oscillating force-field."

But he didn't offer to put the lights out and Mark wasn't going to ask him to.

The captain said, "Sit down, Mr. Annuncio. No use standing, eh? You smoke? Mind if I do? Sorry you couldn't be here this mornins. Had an excellent view of Lagrange I and II at six space-hours. Red and green. Like traffic lights, eh? Missed you all trip. Space-legs need strengthening, eh?"

He barked out his "eh's" in a high-pitched voice that Mark found devilishly irritating.

Mark said in a low voice, "I'm all right now."

The captain seemed to find that unsatisfactory. He puffed at his cigar and stared down at Mark with eyebrows hunched down over his eyes. He said, slowly, "Glad to see you now, anyway. Get acquainted a little. Shake hands. The *Triple G*'s been on a good many government-chartered cruises. No trouble. Never had trouble. Wouldn't want trouble. You understand."

Mark didn't. He was tired of trying to. His eyes drifted back hungrily to the stars. The pattern had changed a little.

The captain caught his eyes for a moment. He was frowning and his shoulders seemed to tremble at the edge of a shrug. He walked to the control panel, and like a gigantic eyelid, metal slithered across the studded observation port.

Mark jumped up in a fury, shrieking, "What's the idea? I'm counting them, you fool."

"Counting—" The captain flushed, but maintained a quality of politeness in his voice. He said, "Sorry! Little matter of business we

must discuss."

He stressed the word "business" lightly.

Mark knew what he meant. "There's nothing to discuss. I want to see the ship's log. I called you hours ago to tell you mat. You're delaying me."

The captain said, "Suppose you tell me why you want to see it, eh? Never been asked before. Where's your authority?"

Mark felt astonished. "I can look at anything I want to. I'm in Mnemonic Service."

The captain puffed strongly at his cigar. (It was a special grade manufactured for use in space and on enclosed space-objects. It had an oxidant included so that atmospheric oxygen was not consumed.)

He said, cautiously, "That so? Never heard of it. What is it?"

Mark said indignantly, "It's the Mnemonic Service, that's all. It's my job to look at anything I want to and to ask anything I want to. And I've got the right to do it."

"Can't look at the log if I don't want you to."

"You've got no say in it, you… you *noncompos."*

The captain's coolness evaporated. He threw his cigar down violently and stamped at it, then picked it up and poked it carefully into the ash vent.

"What the Galactic Drift is this?" he demanded. "Who are you, anyway? Security agent? What's up? Let's have it straight. Right now."

"I've told you all I have to."

"Nothing to hide," said the captain, "but I've got rights."

"Nothing to hide?" squeaked Mark. "Then why is this ship called the *Triple G?"*

"That's its name."

"Go on. No such ship with an Earth registry. I knew that before I got on. I've been waiting to ask you."

The captain blinked. He said, "Official name is *George G. Grundy. Triple G* is what everyone calls it."

Mark laughed. "All right, then. And after I see the log book, I want to talk to the crew. I have the right. You ask Dr. Sheffield."

"The crew too, eh?" the captain seethed. "Let's talk to Dr. Sheffield, and then let's keep you in quarters till we land. Sprout!"

He snatched at the intercom box.

The scientific complement of the *Triple G* were few in number for the job they had to do, and, as individuals, young. Not as young as Mark Annuncio, perhaps, who was in a class by himself, but even the oldest of them, Emmanuel George Cimon—astrophysicist—was not quite thirty-nine. And with his dark, unthinned hair and large, brilliant eyes, he looked still younger. To be sure, the optic brilliance

was partly due to the wearing of contact lenses.

Cimon, who was perhaps overconscious of his relative age, and of the fact that he was the titular head of the expedition—a fact most of the others were inclined to ignore—usually affected an undramatic view of the mission. He ran the dotted tape through his fingers, then let it snake silently back into its spool.

"Run of the mill," he sighed, seating himself in the softest chair in the small passenger's lounge. "Nothing."

He looked at the latest color photographs of the Lagrange binary and was impervious to their beauty. Lagrange I, smaller and hotter than Earth's own sun, was a brilliant green-blue, with a pearly green-yellow corona surrounding it like the gold setting of an emerald. It appeared to be the size of a lentil or of a ball bearing out of a Lenser-ratchet. A short distance away—as distances go on a photograph—was Lagrange II. It appeared twice the size of Lagrange I, due to its position in space. (Actually, it was only four-fifths the diameter of Lagrange I, half its volume and two-thirds its mass.) Its orange-red, toward which the film was less sensitive, comparatively, than was the human retina, seemed dimmer than ever against the glory of its sister sun.

Surrounding both, undrowned by the near-by suns, as the result of the differentially-polarized lens specifically used for the purpose, was the unbelievable brilliance of the Hercules cluster. It was diamond dust, scattered thickly, yellow, white, blue, and red.

"Nothing," said Cimon.

"Looks good to me," said the other man in the lounge. He was Groot Knoevenaagle—physician—short, plump, and known to man by no name other than Novee.

He went on to ask, "Where's Junior?" then bent over Cimon's shoulder, peering out of slightly myopic eyes.

Cimon looked up and shuddered, "It's name is not Junior. You can't see the planet, Troas, if *that's* what you mean, in this wilderness of stars. This picture is *Scientific Earthman* material. It isn't particularly useful."

"Oh, Space and back!" Novee was disappointed.

"What difference is it to you, anyway?" demanded Cimon. "Suppose I said one of those dots was Troas—any one of them. You wouldn't know the difference and what good would it do you?"

"Now wait, Cimon. Don't be so superior. It's legitimate sentiment. We'll be living on Junior for a while. For all we know, we'll be dying on it."

"There's no audience, Novee, no orchestra, no mikes, no trumpets, so why be dramatic. We won't be dying on it. If we do, it'll be our own fault, and probably as a result of overeating." He said it

with the peculiar emphasis men of small appetite use when speaking to men of hearty appetite, as though a poor digestion was something that came only of rigid virtue and superior intellect.

"A thousand people did die," said Novee, softly.

"Sure. About a billion men a day die all over the galaxy."

"Not this way."

"Not what way?"

With an effort, Novee kept to his usual drawl. "No discussions except at official meetings. That was the decision."

"I'll have nothing to discuss," said Cimon, gloomily. "They're just two ordinary stars. Damned if I know why I volunteered. I suppose it was just the chance of seeing an abnormally large Trojan system from close up. It was the thought of looking at a habitable planet with a double sun. I don't know why I should have thought there'd be anything amazing about it."

"Because you thought of a thousand dead men and women," said Xovee, then went on hastily. "Listen, tell me something, will you? What's a Trojan planet, anyway?"

The physician bore the other's look of contempt for a moment, then said, "All right. All right. So I don't know. You don't know everything either. What do you know about ultrasonic incisions?"

Cimon said, "Nothing, and I think I hat's fine. It's my opinion that information outside a professional man's specialty is useless and a waste of psycho-potential. Sheffield's point of view leaves me cold."

"I still want to know. That is, if you can explain it."

"I can explain it. As a matter of fact, it was mentioned in the original briefing, if you were listening. Most multiple stars, and that means one third of all stars, have planets of a sort. The trouble is that the planets are never habitable. If they're far enough away from the center of gravity of the stellar system to have a fairly circular orbit, they're cold enough to have helium oceans. If they're close enough to get heat, their orbit is so erratic that at least once in each revolution, they get close enough to one or another of the stars to melt iron.

"Here in the Lagrange System, however, we have an unusual case. The two stars, Lagrange I and Lagrange II, and the planet, Troas—along with its satellite, Ilium—are at the corners of an imaginary equilateral triangle. Got that? Such an arrangement happens to be a stable one, and for the sake of anything you like, don't ask me to tell you why. Just take it as my professional opinion."

Novee muttered under his breath, "I wouldn't dream of doubting it."

Cimon looked displeased and continued, "The system revolves as a unit. Troas is always a hundred million miles from each sun, and the suns are always a hundred million miles from one another."

Novee rubbed his ear and looked dissatisfied. “I know all that. I *was* listening at the briefing. But why is it a *Trojan* planet? Why *Trojan?”*

Cimon’s thin lips compressed for a moment as though holding back a nasty word by force. He said, “We have an arrangement like that in the Solar System. The sun, Jupiter and a group of small asteroids form a stable equilateral triangle. It so happens that the asteroids had been given such names as Hector, Achilles, Ajax and other heroes of the Trojan war, hence—or do I have to finish?”

“Is that all?” said Novee.

“Yes. Are you through bothering me?”

“Oh, boil your head.”

Novee rose to leave the indignant astrophysicist but the door slid open a moment before his hand touched the activator and Boris Vernadsky—geochemist; dark eyebrows, wide mouth, broad face and with an inveterate tendency to polka-dot shirts and magnetic clip-ons in red plastic—stepped in.

He was oblivious to Novee’s flushed face and Cimon’s frozen expression of distaste.

He said, lightly, “Fellow scientists, if you listen very carefully you will probably hear an explosion to beat the Milky Way from up yonder in captain’s quarters.”

“What happened?” asked Novee.

“The captain got hold of Annuncio, Sheffield’s little pet wizard, and Sheffield went charging up-deck, bleeding heavily at each eyeball.”

Cimon, having listened so far, turned away, snorting.

Novee said, “Sheffield! The man can’t get angry. I’ve never even heard him raise his voice.”

“He did this time. When he found out the kid had left his cabin without telling him and that the captain was bully-ragging him—Wow! Did you know he was up and about, Novee?”

“No, but I’m not surprised. Spacesickness is one of those things. When you have it, you think you’re dying. In fact, you can hardly wait. Then, in two minutes it’s gone and you feel all right. Weak, but all right. I told Mark this morning we’d be landing next day and I suppose it pulled him through. The thought of a planetary surface in clear prospect does wonders for spacesickness. We *are* landing soon, aren’t we, Cimon?”

The astrophysicist made a peculiar sound that could have been interpreted as a grunt of assent. At least, Novee so interpreted it.

“Anyway,” said Novee, “what happened?”

Vernadsky said, “Well, Sheffield’s been bunking with me since the

kid twirled on his toes and went over backward with spacesickness and he's sitting there at the desk with his charts and his fist computer chug-chugging away, when the room-phone signals and its the captain. Well, it turns out he's got the boy with him and he wants to know what the blankety-blank and assorted dot-and-dash the government means by planting a spy on him. So Sheffield yells back at him that he'll stab him with a Collamore macro-leveling-tube if he's been fooling with the kid and off he goes leaving the phone activated and the captain frothing."

"You're making this up," said Novee. "Sheffield wouldn't say anything like that."

"Words to that effect."

Novee turned to Cimon. "You're heading our group. Why don't you do something about this?"

Cimon snarled, "In cases like this, I'm heading the group. My responsibilities always come on suddenly. Let them fight it out. Sheffield talks an excellent fight and the captain never takes his hands out of the small of his back. Vernadsky's jitterbugging description doesn't mean there'll be physical violence."

"All right, but there's no point in having feuds of any kind in an expedition like ours."

"You mean our mission!" Vernadsky raised both hands in mock-awe and rolled his eyes upward. "How I dread the time when we must find ourselves among the rags and bones of the first expedition."

And as though the picture brought to mind by that was not one that bore levity well after all, there was suddenly nothing to say. Even the back of Cimon's head which was all that showed over the back of the easy-chair seemed a bit the stiffer for the thought.

Oswald Mayer Sheffield—psychologist, thin as a string and as tall as a good length of it, and with a voice that could be used either for singing an operatic selection with surprising virtuosity or for making a

point of argument, softly but with stinging accuracy—did not show the anger one would have expected from Vernadsky's account.

He was even smiling when he entered the captain's cabin.

The captain broke out mauvely, as soon as he entered. "Look here, Sheffield—"

"One minute, Captain Follenbee," said Sheffield, "How are you, Mark?"

Mark's eyes fell and his words were muffled. "All right, Dr. Sheffield."

"I wasn't aware you'd gotten out of bed."

There wasn't the shade of reproach in his voice, but Mark grew apologetic. "I was feeling better, Dr. Sheffield, and I feel bad about not working. I haven't done anything in all the time I've been on the ship. So I put in a call to the captain to ask to see the log book and he had me come up here."

"All right. I'm sure he won't mind if you go back to your room now."

"Oh, won't I?" began the captain. Sheffield's mild eyes rose to meet the captain. "I'm responsible for him, sir."

And somehow the captain could think of nothing further to say.

Mark turned obediently and Sheffield watched him leave and waited till the door was well-closed behind him.

Then he turned again to the captain. "What's the bloody idea, captain?"

The captain's knees bent a little, then straightened and bent again with a sort of threatening rhythm. The invisible slap of his hands, clasped behind his back could be heard distinctly. "That's my question. I'm captain here, Sheffield."

"I know that."

"Know what it means, eh? This ship, in Space, is a legally recognized planet. I'm absolute ruler. In Space, what I say goes. Central Committee of the Confederacy can't say otherwise. I've got to maintain discipline and no spy—"

"All right, and now let me tell *you* something, captain. You're charted by the Bureau of Outer Provinces to carry a government-sponsored research expedition to the Lagrange System, to maintain it there as long as research necessity requires and the safety of the crew and vessel permits, and then to bring us home. You've signed that contract and you've assumed certain obligations, captain or not. For instance, you can't tamper with our instruments and destroy their research usefulness."

"Who in Space is doing that?" The captain's voice was a blast of indignation.

Sheffield replied calmly, "You are. Hands off Mark Annuncio,

captain. Just as you've got to keep your hands off Cimon's monochrome and Vailleux's microptics, you've got to keep your hands off my Annuncio. And that means each one of your ten four-striped fingers. Got it?"

The captain's uniformed chest expanded. "I take no order on board my own ship. Your language is a breach of discipline, *Mister* Sheffield. Any more like that and it's cabin arrest—you *and* your Annuncio. Don't like it, then speak to Board of Review back on Earth. Till then, it's tongue behind teeth."

"Look, captain, let me explain something. Mark is in the -Mnemonic Service—"

"Sure, he said so. Nummonic Service. Nummonic Service. It's plain secret police as far as I'm concerned. Well, not on board *my* ship, eh?"

"Mnemonic Service," said Sheffield, patiently. "Emm-enn-eee-emm-oh-enn-eye-see Service. You don't pronounce the first emm. It's from a Greek word meaning memory."

The captain's eyes narrowed. "He remembers things?"

"Correct, captain. Look, in a way this is my fault. I should have briefed you on this. I would have, too, if the boy hadn't gotten so sick right after the take-off. It drove most other matters out of my mind. Besides, it didn't occur to me that he might be interested in the workings of the ship itself. Space knows why not. He should be interested in everything."

"He should, eh?" the captain looked at the timepiece on the wall. "Brief me now, eh? But no fancy words. Not many of any other kind, either. Time limited."

"It won't take long, I assure you. Now you're a space-going man, captain. How many inhabited worlds would you say there were in the Confederation?"

"Eighty thousand," said the captain, promptly.

"Eighty-three thousand two hundred," said Sheffield. "What do you suppose it takes to run a political organization that size?"

Again the captain did not hesitate. "Computers," he said.

"All right. There's Earth, where half the population works for the government and does nothing but compute and there are computing sub-centers on every other world. And even so data gets lost. Every world knows something no other world knows—almost every man. Look at our little group. Vernadsky doesn't know any biology and I don't know enough chemistry to stay alive. There's not one of us can pilot the simplest space-cruiser, except for Fawkes. So we work together, each one supplying the knowledge the others lack.

"Only there's a catch. Not one of us knows exactly which of our own data is meaningful to the other under a given set of

circumstances. We can't sit and spout everything we know. So we guess, and sometimes we don't guess right. Two facts, A and B, can go together beautifully sometimes. So Person A, who knows Fact A, says to Person B, who knows Fact B, 'Why didn't you tell me this ten years ago?' and Person B answers, 'I didn't think it was important,' or 'I thought everyone knew that.' "

The captain said, "That's what computers are for."

Sheffield said, "Computers are limited, captain. They have to be asked questions. What's more the questions have to be the kind that can be put into a limited number of symbols. What's more computers are very literal minded. They answer exactly what you ask and not what you have in mind. Sometimes it never occurs to anyone to ask just the right question or feed the computer just the right symbols, and when that happens the computer doesn't volunteer information.

"What we need… what all mankind needs… is a computer that is non mechanical; a computer with imagination. There's one like that, captain." The psychologist tapped his temple. "In everyone, captain."

"Maybe," grunted the captain, "but I'll stick to the usual, eh? Kind you punch a button."

"Are you sure? Machines don't have hunches. Did *you* ever have a hunch?"

"Is this on the point?" The captain looked at the timepiece again.

Sheffield said, "Somewhere inside the human brain is a record of every datum that has impinged upon it. Very little of it is consciously remembered, but all it is there, and a small association can bring an individual datum back without a person's knowing where it comes from. So you get a 'hunch' or a 'feeling.' Some people are better at it than others. And some can be trained. Some are almost perfect, like Mark Annuncio and a hundred like him. Some day, I hope, there'll be a billion like him, and we'll *really* have a Mnemonic Service.

"All their lives," Sheffield went on, "they do nothing but read, look, and listen. And train to do that better and more efficiently. It doesn't matter what data they collect. It doesn't have to have obvious sense or obvious significance. It doesn't matter if any man in the Service wants to spend a week going over the records of the space-polo teams of the Canopus Sector for the last century. *Any* datum may be useful some day. That's the fundamental axiom.

"Every once in a while, one of the Service may correlate across a gap no machine could possibly manage. The machine would fail because no one machine is likely to possess those two pieces of thoroughly unconnected information; or else, if the machine does have it, no man would be insane enough to ask the right question. One good correlation out of the Service can pay for all the money appropriated for it in ten years or more."

The captain raised his broad hand. He looked troubled. He said, "Wait a minute. He said no ship named *Triple G* was under Earth registry. You mean he knows all registered ships by heart?"

"Probably," said Sheffield. "He may have read through the Merchant-ship Register. If he did, he knows all the names, tonnages, years of construction, ports of call, numbers of crew and anything else the Register would contain."

"And he was counting stars."

"Why not? It's a datum."

"I'm damned."

"Perhaps, captain. But the point is that a man like Mark is different from other men. He's got a queer, distorted upbringing and a queer, distorted view on life. This is the first time he's been away from, Service grounds, since he entered them at the age of five. He's easily upset—and he can be ruined. That mustn't happen, and I'm in charge to see it doesn't. He's my instrument; a more valuable instrument than everything else on this entire ship baled into a neat little ball of plutonium wire. There are only a hundred like him in all the Milky Way."

Captain Follenbee assumed an air of wounded dignity. "All right, then. Log book. Strictly confidential, eh?"

"Strictly. He talks only to me, and I talk to no one unless a correlation has been made."

The captain did not look as though that fell under his classification of the word, strictly, but he said, "But no crew." He paused significantly. "You know what I mean."

Sheffield stepped to the door. "Mark knows about that. The crew won't hear about it from him, believe me."

And as he was about to leave, the captain called out, "Sheffield!"

"Yes?"

"What in Space is a 'noncompos.' "

Sheffield suppressed a smile. "Did he call you that?"

"What is it?"

"Just short for *non compos mentis.* Everyone in the Service uses it for everyone not in the Service. You're one. I'm one. It's Latin for 'not of sound mind.' And you know, captain—I think they're quite right."

He stepped out the door quickly.

Mark Annuncio went through the ship's log in some fifteen seconds. He found it incomprehensible, but then most of the material he put into his mind was that. That was no trouble. Nor was the fact that it was dull. The disappointment was that it did not satisfy his curiosity, so he left it with a mixture of relief and displeasure.

He had then gone into the ship's library and worked his way

through three dozen books as quickly as he could work the scanner. He had spent three years of his early teens learning how to read by total gestalt and he still recalled proudly that he had set a school record at the final examinations.

Finally, he wandered into the laboratory sections of the ship and watched a bit here and a bit there. He asked no questions and he moved on when any of the men cast more than a casual glance at them.

He haled the insufferable way they looked at him as though he were some sort of queer animal. He hated their air of knowledge, as though there were something of value in spending an entire brain on one tiny subject and remembering only a little of that.

Eventually, of course, he would *have* to ask them questions. It was his job, and even if it weren't, curiosity would drive him. He hoped, though, he could hold off till they had made planetary surface.

He found it pleasant that they were inside a stellar system. Soon he would see a new world with new suns—two of them—and a new moon. Four objects with brand-new information in each; immense storehouses of facts to be collected lovingly and sorted out.

It thrilled him just to think of the amorphous mountain of data waiting for him. He thought of his mind as a tremendous filing system with index, cross-index, cross-cross-index. He thought of it as stretching indefinitely in all directions. Neat. Smooth. Well oiled. Perfect precision.

He thought of the dusty attic that the noncompos called minds and almost laughed. He could see it even talking to Dr. Sheffield, who was a nice fellow for a noncompos. He tried hard and sometimes he almost *understood.* The others, the men on board ship- their minds were lumberyards. Dusty lumberyards with splintery slats of wood tumbled every which way; and only whatever happened to be on top could be reached.

The poor fools! He could be sorry for them, if they weren't so sloppy-nasty. If only they *knew* what they were like. If only they *realized.*

Whenever he could, Mark haunted the observation posts and watched the new worlds come closer.

They passed quite close to the satellite, "Ilium." (Cimon, the astrophysicist, was very meticulous about calling their planetary destination "Troas" and the satellite "Ilium," but everyone else aboard ship called them "Junior" and "Sister," respectively.) On the other side of the two suns, in the opposite Trojan position, were a group of asteroids. Cimon called them "Lagrange Epsilon" but everyone else called them "The Puppies."

Mark thought of all this with vague simultaneity at the moment the thought "Ilium" occurred to him. He was scarcely conscious of it, and let it pass as material of no immediate interest. Still more vague, and still further below his skin of mental consciousness were the dim stirrings of five hundred such homely misnomers of astronomical dignities of nomenclature. He had read about some, picked up others on subetheric programs, heard about still others in ordinary conversation, come across a few in news reports. The material might have been told him directly, or it might have been a carelessly overheard word. Even the substitution of *Triple G* for *George G. Grundy* had its place in the shadowy file.

Sheffield had often questioned him about what went on in his mind—very gently, very cautiously.

"We want many more like you, Mark, for the Mnemonic Service. We need millions. Billions, eventually, if the race fills up the entire galaxy, as it will some day. But where do we get them. Relying on inborn talent won't do. We all have that more or less. It's the training that counts and unless we find out a little about what goes on, we won't know how to train."

And urged by Sheffield, Mark had watched himself, listened to himself, turned his eyes inward and tried to become *aware.* He learned of the filing cases in his head. He watched them marshal past. He observed individual items pop up on call, always tremblingly ready. It was hard to explain, but he did his best.

His own confidence grew with it. The anxieties of his childhood, those first years in Service, grew less. He stopped waking in the middle of the night, perspiration dripping, screaming with fear that he would forget. And his headaches stopped.

He watched Ilium as it appeared in the viewport at closest approach. It was brighter than he could imagine a moon to be. (Figures for albedoes of three hundred inhabited planets marched through his mind, neatly arrayed in decreasing order. It scarcely stirred the skin of his mind. He ignored them.)

The brightness he blinked at was concentrated in the vast, irregular patches that Cimon said—he overheard him, in weary response to another's question—had once been sea bottom. A fact popped into Mark's mind. The original report of Hidosheki Makoyama had given the composition of those bright salts as 78.6% sodium chloride, 19.2% magnesium carbonate, 1.4% potassium sulf—The thought faded out. It wasn't necessary.

Ilium had an atmosphere. A total of about 100 mm of mercury—a little over an eighth of Earth's, ten times Mars, 0.254 that of Coralemon, 0.1376 that of Aurora. Idly he let the decimals grow to

more places. It was a form of exercise, but he grew bored. Instant arithmetic was fifth-grade stuff. Actually, he still had trouble with integrals and wondered if that was because he didn't know what an integral was. A half dozen definitions flashed by, but he had never had enough mathematics to understand the definitions, though he could quote them well enough.

At school, they had always said, "Don't ever get too interested in any one thing or group of things. As soon as you do that, you begin selecting your facts and you must never do that. *Everything, anything* is important. As long as you have the facts on file, it doesn't matter whether you understand them or not."

But the noncompos didn't think so. Arrogant minds with holes in them!

They were approaching Junior itself now. It was bright, too, but in a different way. It had ice caps north and south. (Textbooks of Earth's paleoclimatology drifted past and Mark made no move to stop them.) The ice caps were retreating. In a million years, Junior would have Earth's present climate. It was just about Earth's size and mass and it rotated in a period of thirty-six hours.

It might have been Earth's twin. What differences there were, according to Makoyama's reports, were to Junior's advantage. There was nothing on Junior to threaten mankind as far as was known. Nor would anyone imagine there possibly might be were it not for the fact that humanity's first colony on the planet had been wiped out to the last soul.

What was worse, the destruction had occurred in such a way that a study of all surviving information gave no reasonable clue whatever as to what had happened.

Sheffield entered Mark's cabin and joined the boy two hours before landing. He and Mark had originally been assigned a room together. That had been an experiment. Mnemonics didn't like the company of noncompos, even the best of them. In any case, the experiment had failed. Almost immediately after take-off, Mark's sweating face and pleading eyes made privacy absolutely essential for him.

Sheffield felt responsible. He felt responsible for everything about Mark whether it was actually his fault or not. He and men like himself had taken Mark and children like him and trained them into personal ruin. They had been force-grown. They had been bent and molded. They had been allowed no normal contact with normal children lest they develop normal mental habits. No Mnemonic had contracted a normal marriage, even within the group.

It made for a terrible guilt-feeling on Sheffield's part.

Twenty years ago there had been a dozen lads trained at one school under the leadership of U Karaganda, as mad an Asiatic as had ever roused the snickers of a group of interviewing newsmen. Karaganda had committed suicide eventually, under some vague motivation, but other psychologists, Sheffield for one, of greater respectability and undoubtedly of lesser brilliance, had had time to join him and learn of him.

The school continued and others were established. One was even founded on Mars. It had an enrollment of five at the moment. At latest count, there were one hundred and three living graduates with full honors—naturally, only a minority of those enrolled actually absorbed the entire course. Five years ago, the Terrestrial planetary government —not to be confused with the Central Galactic Committee, based on Earth, and ruling the Galactic Confederation—allowed the establishment of the Mnemonic Service as a branch of the Department of the Interior.

It had already paid for itself many times over, but few people knew that. Nor did the Terrestrial government advertise the fact, or any other fact about the Mnemonics. It was a tender subject with them. It was an "experiment." They feared that failure might be politically expensive. The opposition—with difficulty prevented from making a campaign issue out of it as it was—spoke at the planetary conferences of "crackpotism" and "waste of the taxpayers' money." And the latter despite the existence of documentary proof of the precise opposite.

In the machine-centered civilization that filled the galaxy, it was difficult to learn to appreciate the achievements of naked mind without a long apprenticeship.

Sheffield wondered how long.

But there was no use being depressed in Mark's company. Too much danger of contagion. He said, instead, "You're looking fine, sport."

Mark seemed glad to see him. He said, thoughtfully, "When we get back to Earth, Dr. Sheffield—"

He slopped, flushed slightly, and said, "I mean, supposing we get back, I intend to get as many books and films as I can on folk-wavs. I've hardly read anything on that subject. I was down in the ship's library and they had nothing—absolutely nothing."

"Why the interest?"

"It's the captain. Didn't you say he told you that the crew were not to know we were visiting a world on which the first expedition had died?"

"Yes, of course. Well?"

"Because spacemen consider it bad luck to touch on a world like

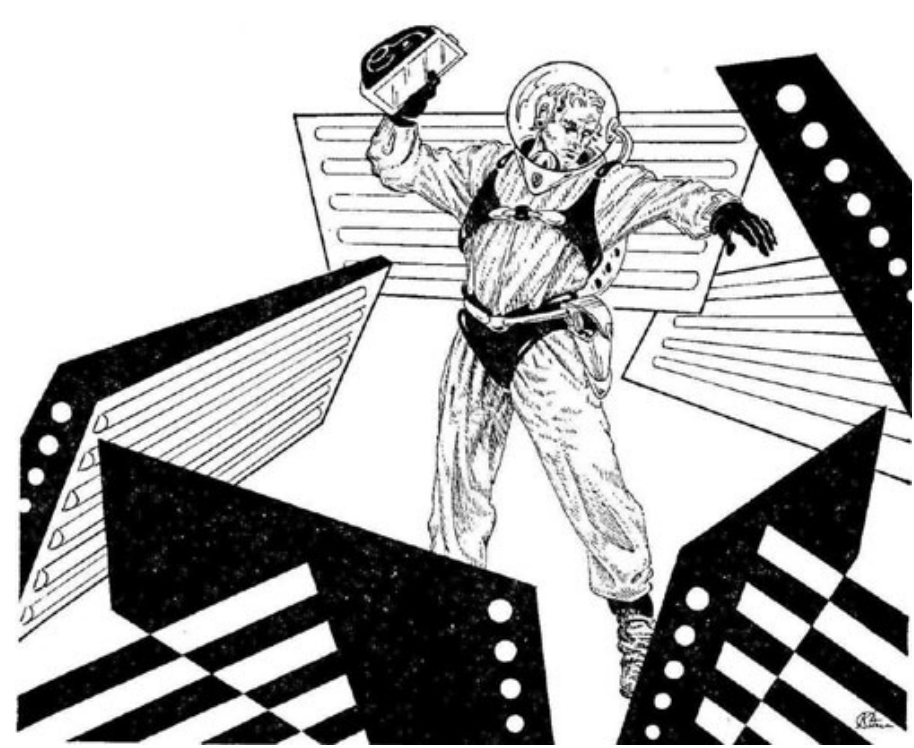
that, especially one that looks harmless. 'Sucker bait,' they call it."

"That's right."

"So the captain *says.* It's just that I don't see how that can be true. I can think of seventeen habitable planets from which the first expeditions never returned and never established residence. And each one was later colonized and now is a member of the Federation. Sarmatia is one of them, and it's a pretty big world now."

"There are planets of continuous disaster, too." Sheffield deliberately put that as a declarative statement.

(Never ask informational questions. That was one of the Rules of Karaganda. Mnemonic correlations weren't a matter of the conscious intelligence; they weren't volitional. As soon as a direct question was asked, the resultant correlations were plentiful but only such as any reasonably informed man might make. It was the unconscious mind that bridged the wide, unlikely gaps.)



Mark, as any Mnemonic would, fell into the trap. He said, energetically, "No, I've never heard of one. Not where the planet was at all habitable. If the planet is solid ice, or complete desert, that's different. Junior isn't like that."

"No it isn't," agreed Sheffield.

"Then why should the crew be afraid of it. I kept thinking about that all the time I was in bed. That's when I thought of looking at the

log. I'd never actually seen one, so it would be a valuable thing to do in any case. And certainly, I thought, I would find the truth there."

"Uh huh," said Sheffield.

"And, well—I may have been wrong. In the whole log the purpose of the expedition was never mentioned. Now that wouldn't be so unless the purpose were secret. It was as if he were even keeping it from the other ship officers. And the name of the ship *is* given as the *George G. Grundy*."

"It would be, of course," said Sheffield.

"I don't know. I suspected that business about *Triple* G," said Mark, darkly.

Sheffield said, "You seem disappointed that the captain wasn't lying."

"Not disappointed. Relieved, I think. I thought… I thought—" He stopped and looked acutely embarrassed, but Sheffield made no effort to rescue him. He was forced to continue, "I thought everyone might be lying to me, not just the captain. Even *you* might, Dr. Sheffield. I thought you just didn't want me to talk to the crew for some reason."

Sheffield tried to smile and managed to succeed. The occupational disease of the Mnemonic Service was suspicion. They were isolated, these Mnemonics, and they were different. Cause and effect were obvious.

Sheffield said lightly, "I think you'll find in your reading on folkways that these superstitions are not necessarily based on logical analysis. A planet which has become notorious has evil expected of it. The good which happens is disregarded; the bad is cried-up, advertised, and exaggerated. The thing snowballs."

He moved away from Mark. He busied himself with an inspection of the hydraulic chairs. They would be landing soon. He felt unnecessarily along the length of the broad webbing of the straps, keeping his back to the youngster. So protected, he said, almost in a whisper, "And, of course, what makes it worse is that Junior is so different."

(Easy now, easy. Don't push. He had tried that trick before this and—) Mark was saying, "No, it isn't. Not a bit. The expeditions that failed were different. That's true."

Sheffield kept his back turned. He waited.

Mark said, "The seventeen other expeditions that failed on planets that are now inhabited were all small exploring expeditions. In sixteen of the cases the cause of death was shipwreck of one sort or another and in the remaining case, Coma Minor that one was, the failure resulted from a surprise attack by indigenous life-forms, not intelligent, of course. I have the details on all of them—"

(Sheffield couldn't forebear holding his breath. Mark *could* give

the details on all of them. All the details. It was as easy for him to quote all the records on each expedition, word for word, as it was to say yes or no. And he might well choose to. A Mnemonic had no selectivity. It was one of the things that made ordinary companionship between Mnemonics and ordinary people impossible. Mnemonics were dreadful bores by the nature of things. Even Sheffield, who was trained and inured to listen to it all, and who had no intention of stopping Mark if he were really off on a talk-jab, sighed softly.)

"But what's the use," Mark continued, and Sheffield felt rescued from a horror. "They're just not in the same class with the Junior expedition. That consisted of an actual settlement of seven hundred eighty-nine men, two hundred seven women and fifteen children under the age of thirteen. In the course of the next year, three hundred fifteen women, nine men and two children were added by immigration. The settlement survived almost two years and the cause of death isn't known, except that from their report, it might be disease.

"Now *that* part is different. But Junior itself has nothing unusual about it, except, of course—"

Mark paused as though the information were too unimportant to bother with and Sheffield almost yelled. He forced himself to say calmly, "*That* difference. Of course."

Mark said, "We all know about that. It has two suns and the others only have one."

The psychologist could have cried his disappointment. Nothing!

But what was the use. Belter luck next time. If you don't have patience with a Mnemonic, you might as well not have a Mnemonic.

He sat down in the hydraulic chair and buckled himself in tightly. Mark did likewise. (Sheffield would have liked to help, but that would have been injudicious.) He looked at his watch. They must be spiraling down even now.

Under his disappointment, Sheffield felt a stronger disturbance. Mark Annuncio had acted wrongly in following up his own hunch that the captain and everybody else had been lying. Mnemonics had a tendency to believe that because their store of facts was great, it was complete. This, obviously, is a prime error. It is therefore necessary—thus spake Karaganda—for them to present their correlations to properly constituted authority and never to act upon it themselves.

Well, how significant was this error of Mark's. He was the first Mnemonic to be taken away from Service headquarters; the first to be separated from all of his kind; the first to be isolated among noncompos. What did that do to him? What would it continue to do to him? Would it be bad? If so, how to stop it?

To all of which questions, Dr. Oswald Mayer Sheffield knew no

answer.

The men at the controls were the lucky ones. They and, of course, Cimon who, as astrophysicist and director of the expedition, joined them by special dispensation. The others of the crew had their separate duties, while the remaining scientific personnel preferred the relative comfort of their hydraulic seats during the spiral around and down to Junior.

It was while Junior was still far enough away to be seen as a whole that the scene was at its grandest.

North and south, a third of the way to the equator, lay the ice caps, still at the start of their millennial retreat. Since the *Triple G* was spiraling on a north-south great circle—deliberately chosen for the sake of viewing the polar regions, as Cimon, at the cost of less than maximum safety, insisted—each cap in turn was laid out below them.

Each burnt equally with sunlight, the consequence of Junior's un tilted axis. And each cap was in sectors, cut like a pie with a rainbowed knife.

The sunward third of each was illuminated by both suns simultaneously into a brilliant white that slowly yellowed westward, and as slowly greened eastward. To the east of the white sector lay another, half as wide, which was reached by the light of Lagrange I only, and the snow there blazed a response of sapphire beauty. To the west, another half-sector, exposed to Lagrange II alone, shone in the warm orange-red of an Earthly sunset. The three colors graded into one another band-wise, and the similarity to a rainbow was increased thereby.

The final third was dark in contrast, but if one looked carefully enough, it, too, was in parts—unequal parts. The smaller portion was black indeed, but the larger portion had a faint milkiness about it.

Cimon muttered to himself, "Moonlight. Of course." Then looked about hastily to see if he were overheard. He did not like people to observe the actual process by which conclusions were brought to fruition in his mind. Rather they were to be presented to his students and listeners, to all about him in short, in a polished perfection that showed neither birth nor growth.

But there were only spacemen about and they did not hear him. Despite all their space-hardening, they were fixing whatever concentration they could spare from their duties and instruments upon the wonder before them.

The spiral curved, veered way from north-south to northeast-southwest, finally to the east-west in which a safe landing was most feasible. The dull thunder of atmosphere carried into the pilot room, thin and shrill at first, but gathering body and volume as the minutes

passed.

Until now, in the interests of scientific observation—and to the considerable uneasiness of the captain—the spiral had been tight, deceleration slight, and the planetary circumnavigations numerous. As they bit into Junior's air-covering, however, deceleration pitched high and the surface rose to meet them.

The ice caps vanished on either side and there began an equal alternation of land and water. A continent, mountainous on either seacoast and flat in between, like a soup plate with two ice-topped rims, flashed below at lengthening intervals. It spread halfway around Junior and the rest was water.

Most of the ocean at the moment was in the dark sector, and what was not lay in the red-orange light of Lagrange II. In the light of that sun, the waters were a dusky purple with a sprinkling of ruddy specks that thickened north and south. Icebergs!

The land was distributed at the moment between the red-orange half-sector and the full white light. Only the eastern seacoast was in the blue-green. The eastern mountain range was a startling sight, with its western slopes red and its eastern slopes green.

The ship was slowing rapidly now; the final trip over ocean was done.

Next—landing!

The first steps were cautious enough. Slow enough, too. Cimon inspected his photochromes of Junior as taken from space with minute care. Under protest, he passed them among the others of the expedition and more than a few groaned inwardly at the thought of having placed comfort before a chance to see the original of *that*.

Boris Vernadsky bent over his gas-analyzer interminably, a symphony in loud clothes and soft grunts.

"We're about at sea level, I should judge," he said, "going by the value of *g*."

Then, because he was explaining himself to the rest of the group, he added negligently, "The gravitational constant, that is," which didn't help most of them.

He said, "The atmospheric pressure is just about eight hundred millimeters of mercury which is about five per cent higher than on Earth. And two hundred forty millimeters of that is oxygen as compared to only one hundred fifty on Earth. Not bad."

He seemed to be waiting for approval, but scientists found it best to comment, as little as possible on data in another man's specialty.

He went on, "Nitrogen, of course. Dull, isn't it, the way Nature repeats itself like a three-year-old who knows three lessons, period. Takes the fun away when it turns out that a water world always has

an oxygen-nitrogen atmosphere. Makes the whole thing yawn-worthy."

"What else in the atmosphere?" asked Cimon, irritably. "So far all we have is oxygen, nitrogen, and homely philosophy from kindly Uncle Boris."

Vernadsky hooked his arm over his seat and said, amiably enough. "What are you? Director or something?"

Cimon, to whom the directorship meant little more than the annoyance of preparing composite reports for the Bureau flushed and said, grimly, "What else in the atmosphere, Dr. Vernadsky?"

Vernadsky said, without looking at his notes, "Under one per cent and over a hundredth of one per cent: hydrogen, helium, and carbon dioxide in that order. Under a hundredth of one per cent and over a ten thousandt h of one per cent: methane, argon, and neon in that order. Under a ten thousandth of one per cent and over a millionth of a per cent : radon, krypton, and xenon in that order.

"The figures aren't very informative. About all I can get out of them is that Junior is going to be a happy hunting ground for uranium, that it's low in potassium and that it's no wonder it's such a lovely little double ice cap of a world."

He did that deliberately, so that someone could ask him how he knew, and someone, with gratifying wonder, inevitably did.

Vernadsky smiled blandly and said: "Atmospheric radon is ten to a hundred times as high here as on Earth. So is helium. Both radon and helium are produced as by-products of the radioactive breakdown of uranium and thorium. Conclusion: Uranium and thorium minerals are ten to a hundred times as copious in junior's crust as in Earth's.

"Argon, on the other hand, is over a hundred times as low as on Earth. Chances are Junior has none of the argon it originally started with. A planet of this type has only the argon which forms from the breakdown of K^{40}, one of the potassium isotopes. Low argon; low potassium. Simple, kids."

One of the assembled groups asked, "What about the ice caps?"

Cimon, who knew the answer to that, asked, before Vernadsky could answer the other, "What's the carbon dioxide content exactly?"

"Zero point zero one six emm emm," said Vernadsky.

Cimon nodded, and vouchsafed nothing more.

"Well?" asked the inquirer impatiently.

"Carbon dioxide is only about half what it is on Earth, and it's the carbon dioxide that gives the hothouse effect. It lets the short waves of sunlight pass through to the planet's surface, but doesn't allow the long waves of planetary heat to radiate off. When carbon dioxide concentration goes up as a result of volcanic action, the planet heats up a bit and you have a carboniferous age with oceans high and land

surface at a minimum. When carbon dioxide goes down as a result of the vegetation refusing to lei a good thing alone, fattening up on the good old see-oh-two and losing its head about it, temperature drops, ice forms, a vicious cycle of glaciation starts, and *voilà*—"

"Anything else in the atmosphere?" asked Cimon.

"Water vapor and dust. I suppose there are a few million airborne spores of various virulent diseases per cubic centimeter in addition to that." He said it lightly enough, but there was a stir in the room. More than one of the bystanders looked as though he were holding his breath.

Vernadsky shrugged and said, "Don't worry about it for now. My analyzer washes out dust and spores quite thoroughly. But then, that's not my angle. I suggest Rodriguez grow his cultures under glass right away. Good thick glass."

Mark Annuncio wandered everywhere. His eves shone as he listened, and he pressed himself forward to hear better. The group suffered him to do so with various degrees of reluctance, in accordance with individual personalities and temperaments. None spoke to him.

Sheffield stayed close to Mark. He scarcely spoke, either. He bent all his effort on remaining in the background of Mark's consciousness. He wanted to refrain from giving Mark the feeling of being haunted by himself; give the boy the illusion of freedom, instead. He wanted to seem to be there, each time, by accident only.

It was a most unsuccessful pretense, he felt, but what could he do? He *had* to keep the kid from gelling into trouble.

Miguel Antonio Lopez y Rodriguez—microbiologist; small, tawny, with intensely black hair which he wore rather long, and with a reputation which he did nothing to discourage, of being a Latin in the grand style as far as the ladies were concerned—cultured the dust from Vernadsky's gas-analyzer trap with a combination of precision and respectful delicacy.

"Nothing," he said, eventually. "What foolish growths I get look harmless."

It was suggested that Junior's bacteria need not necessarily look harmful; that toxins and metabolic processes could not be analyzed by eye, even by microscopic eye.

This was met with hot contempt, as almost an invasion of professional function. He said, with an eyebrow lifted, "One gets a feeling for these things. When one has seen as much of the microcosm as I have, one can sense danger—or lack of danger."

This was an outright lie, and Rodriguez proved it by carefully

transferring samples of the various germ colonies into buffered, isotonic media and injecting hamsters with the concentrated result. They did not seem to mind.

Raw atmosphere was trapped in large jars and several specimens of minor animal life from Earth, and other planets were allowed to disport themselves within. None of them seemed to mind, either.

Nevile Fawkes—botanist; a man who appreciated his own handsomeness by modeling his hair style after that I shown on the traditional busts of Alexander the Great, but from whose appearance the presence of a nose, far more aquiline than Alexander ever possessed, noticeably detracted—was gone for two days, by Junior chronology, in one of the *Triple* G's atmospheric coasters. He could navigate one like a dream and was, in fact, the only man outside the crew who could navigate one at all, so he was the natural choice for the task. Fawkes did not seem noticeably overjoyed about that.

He returned, completely unharmed and unable to hide a grin of relief. He submitted to irradiation for the sake of sterilizing the exterior of his flexible air-suit—designed to protect men from the deleterious effect of the outer environment where no pressure differential existed; the strength and jointedness of a true spacesuit being obviously unnecessary within an atmosphere as thick as Junior's. The coaster was subjected to a more extended irradiation, and pinned down under a plastic cover-all.

Fawkes flaunted color photographs in great number. The central valley of the continent was fertile almost beyond Earthly dreams. The rivers were mighty, the mountains rugged and snow-covered—with the usual pyrotechnic solar effects. Under Lagrange II alone, the vegetation looked vaguely repellant, seeming rather dark, like dried blood. Under Lagrange I, however, or under the suns together, the brilliant, flourishing green and the glisten of the numerous lakes—particularly north and south along the dead rims of the departing glaciers—brought an ache of homesickness to the hearts of many.

Fawkes said, "Look at t hese."

He had skimmed low to take a photochrome of a field of huge flowers, dripping with scarlet. In the high-ultraviolet radiation of Lagrange I, exposure times were of necessity extremely short and despite the motion of the coaster, each blossom stood out as a sharp blotch of strident color.

"I swear," said Fawkes, "each one of those was six feet across."

They admired the flowers unrestrainedly.

Fawkes then said, "No intelligent life whatever, of course."

Sheffield looked up from the photographs, with instant sharpness. Life and intelligence, after all, were by way of being his province.

“How do you know?”

“Look for yourself,” said the botanist. “There are the photos. No highways, no cities, no artificial waterways, no signs of anything man-made.”

“No machine civilization,” said Sheffield. “That’s all.”

“Even ape-men would build shelters and use fire,” said Fawkes, offended.

“The continent is ten times as large as Africa and you’ve been over it for two days. There’s a lot you could miss.”

“Not as much as you’d think,” was the warm response. “I followed every sizable river up and down and looked over both seacoasts. Any settlements are bound to be there.”

“In allowing seventy-two hours for two eight-thousand-mile seacoasts ten thousand miles apart, plus how many thousand miles of river, that had to be a pretty quick lookover.”

Cimon interrupted, “What’s this all about? *Homo sapiens* is the only intelligence ever discovered in the galaxy through a hundred thousand and more explored planets. The chances of Troas possessing intelligence is virtually nil.”

“Yes?” said Sheffield. “You could use the same argument to prove there’s no intelligence on Earth.”

“Makoyama,” said Cimon, “in his report mentioned no intelligent life.”

“And how much time did he have? It was a case of another quick feel through the haystack with one finger and a report of no needle.”

“What the eternal universe,” said Rodriguez, waspishly. “We argue like madmen. Call the hypothesis of indigenous intelligence unproven and let it go. We are not through investigating yet, I hope.”

Copies of those first pictures of Junior’s surface were added to what might be termed the open files. After a second trip, Fawkes returned in more somber mood and the meeting was correspondingly more subdued.

New photographs went from hand to hand and were then placed by Cimon himself in the special safe that nothing could open short of Cimon’s own hands or an all-destroying nuclear blast.

Fawkes said, “The two largest rivers have a generally north-south course along the eastern edges of the western mountain range. The larger river comes down from the northern ice cap, the smaller up from the southern one. Tributaries come in westward from the eastern range, interlacing the entire central plain. Apparently, the central plain is tipped, the eastern edge being higher. It’s what ought to be expected maybe. The eastern mountain range is the taller, broader and more continuous of the two. I wasn’t able to make actual measurements, but I wouldn’t be surprised if they beat the Himalayas. In fact, they’re a lot like the Wu Ch’ao range on Hesperus. You have to hit the stratosphere to get over them, and rugged—Wow !

“Anyway,” he brought himself back to the immediate subject at hand, with an effort, “the two main rivers join about a hundred miles south of the equator and pour through a gap in the western range. They make it to the ocean after that in just short of eighty miles.

“Where it hits the ocean is a natural spot for the planetary metropolis. The trade routes into the interior of the continent have to converge there so it would be the inevitable emporium for space-trade. Even as far as surface trade is concerned, the continental east coast has to move goods across the ocean. Jumping the eastern range isn’t worth the effort. Then, too, there are the islands we saw when we were landing.

“So right there is where I would have looked for the settlement even if we didn’t have a record of the latitude and longitude. And those settlers had an eye for the future. It’s where they set up shop.”

Novee said in a low voice, “They thought they had an eye for the future, anyway. There isn’t much left of them, is there?”

Fawkes tried to be philosophic about it. “It’s been over a century.

What do you expect? There’s a lot more left of them than I honestly thought there would be. Their buildings were mostly prefab. They’ve tumbled and vegetation has forced its way over and through them. The fact that the climate of Junior is glacial is what’s preserved it. The trees—or the objects that rather look like trees—are small and obviously very slow-growing.

“Even so, the clearing is gone. From the air, the only way you could tell there had once been a settlement in that spot was that the new growth had a slightly different color and… and, well, *texture,* than the surrounding forests.”

He pointed at a particular photograph. “This is just a slag heap. Maybe it was machinery once. I think those are burial mounds.”

Novee said, “Any actual remains? Bones?”

Fawkes shook his head.

Novee said, “The last survivors didn’t bury themselves, did they?”

Fawkes said, “Animals, I suppose.” He walked away, his back to

the group. “It was raining when I poked my way through. It went *splat*, *splat* on the flat leaves above me and the ground was soggy and spongy underneath. It was dark, gloomy—There was a cold wind. The pictures I took don’t get it across. I felt as though there were a thousand ghosts, waiting—”

The mood was contagious.

Cimon said, savagely, “Stop that!”

In the background, Mark Annuncio’s pointed nose fairly quivered with the intensity of his curiosity. He turned to Sheffield, who was at his side, and whispered, “Ghosts? No authentic case of seeing—”

Sheffield touched Mark’s thin shoulder lightly. “Only a way of speaking, Mark. But don’t feel badly, that he doesn’t mean it literally. You’re watching the birth of a superstition, and that’s something, isn’t it?”

A semi-sullen Captain Follenbee sought out Cimon the evening after Fawkes’ second return, and said in his harumphy way, “Never do, Dr. Cimon. My men are unsettled. Very unsettled.”

The port-shields were open. La-grange I was six hours gone, and Lagrange II’s ruddy light, deepened to crimson in setting, flushed the captain’s face and tinged his short gray hair with red.

Cimon, whose attitude toward the crew in general and the captain in particular was one of controlled impatience, said, “What is the trouble, captain?”

“Been here two weeks, Earth-time. Still no one leaves without suits. Always irradiate before you come back. Anything wrong with the air?”

“Not as far as we know?”

“Why not breathe it then?”

“Captain, that’s for me to decide.”

The flush on the captain’s face became a real one. He said, “My papers say I don’t have to stay if ship’s safety is endangered. A frightened and mutinous crew is something I don’t want.”

“Can’t you handle your own men?”

“Within reason.”

“Well, what really bothers them? This is a new planet and we’re being cautious. Can’t they understand that?”

“Two weeks and still cautious. They think we’re hiding something. And we are. You know that. Besides, surface leave is necessary. Crew’s got to have it. Even if it’s just on a bare rock a mile across. Gets them out of the ship. Away from the routine. Can’t deny them that.”

“Give me till tomorrow,” said Cimon, contemptuously.

The scientists gathered in the observatory the next day.

Cimon said, “Vernadsky tells me the data on air is still negative, and Rodriguez has discovered no airborne pathogenic organism of any type.”

There was a general air of dubiety over the last statement. Novee said, “The settlement died of disease. I’ll swear to that.”

“Maybe so,” said Rodriguez at once, “but can you explain how? It’s impossible. I tell you that and I tell you. See here. Almost all Earth-type planets give birth to life and that life is always protein in nature and always either cellular or virus in organization. But that’s all. There the resemblance ends.

“You laymen think it’s all the same; Earth or any planet. Germs are germs and viruses are viruses. I tell you, you don’t understand the infinite possibilities for variation in the protein molecule. Even on Earth, every species has its own diseases. Some may spread over several species but there isn’t one single pathogenic life form of any type on Earth that can attack all other species.

“You think that a virus or a bacterium developing independently for a billion years on another planet with different amino-acids, different enzyme systems, a different scheme of metabolism altogether, is just going to happen to find *Homo sapiens* succulent like a lollipop. I tell you it is childishness.”

Novee, his physician’s soul badly pierced at having been lumped under the phrase, “you laymen,” was not disposed to let it go that easily. “*Homo sapiens* brings its own germs with it wherever it goes, Rod. Who’s to say the virus of the common cold didn’t mutate under some planetary influence into something that was suddenly deadly. Or influenza. Things like that have happened even on Earth. The 2755 para-meas—”

“I know all about the 27.55 para-measles epidemic,” said Rodriguez, “and the 1918 influenza epidemic, and the Black Death, too. But when has it happened lately? Granted the settlement was a matter of a century and more ago; still that wasn’t exactly pre-atomic times, either. They included doctors. They had supplies of antibiotics and they knew the techniques of antibody induction. They’re simple enough. And there was the medical relief expedition, too.”

Novee patted his round abdomen and said, stubbornly, “The symptoms were those of a respiratory infection; dyspnea—”

“I know the list; but. I tell you it wasn’t a germ disease that got them. It couldn’t be.”

“What was it, then?”

“That’s outside my professional competence. Talking from inside, I tell you it wasn’t infection. Even mutant infection. It couldn’t be. It *mathematically* couldn’t be.” He leaned heavily on the adverb.

There was a stir among his listeners as Mark Annuncio shoved his thin body forward into the space immediately before Rodriguez.

For the first time, he spoke at one of these gatherings.

"Mathematically?" he asked, eagerly.

Sheffield followed after, his long body all elbows and knees as he made a path. He murmured "Sorry" half a dozen times.

Rodriguez, in an advanced stage of exasperation thrust out his lower lip and said, "What do *you* want?"

Mark flinched. Less eagerly, he said, "You said you knew it wasn't infection mathematically. I was wondering how… mathematics—" He ran down.

Rodriguez said, "I have stated my professional opinion."

He said it formally, stiltedly, then turned away. No man questioned another's professional opinion unless he was of the same specialty. Otherwise the implication, clearly enough, was that the specialist's experience and knowledge was sufficiently dubious to be brought into question by an outsider.

Mark knew this, but then he was of the Mnemonic Service. He tapped Rodriguez's shoulder, while the others standing about listened in stunned fascination, and said, "I know it's your professional opinion, but still I'd like to have it explained."

He didn't mean to sound peremptory. He was just stating a fact.

Rodriguez whirled. "You'd like to have il explained? Who the eternal Universe are *you* to ask me questions."

Mark was startled at the other's vehemence, but Sheffield had reached him now, and he gained courage and with it, anger. He disregarded Sheffield's quick whisper and said shrilly, "I'm Mark Annuncio of Mnemonic Service and I've asked you a question. I want your statement explained."

"It won't be explained. Sheffield, take this young nut out of here and tuck him into bed, will you? And keep him away from me after this. Young jackass." The last was a clearly-heard aside.

Sheffield took Mark's wrist but it was wrenched out of his grasp. The young Mnemonic screamed, "You stupid noncompos. You… you moron. You forgettery on two feet. Sieve-mind. Let me *go,* Dr. Sheffield—You're no expert. You don't remember anything you've learned, and you haven't learned much in the first place. You're not a specialist; none of you—"

"For space's sake," cried Cimon, "take the young idiot out of here, Sheffield."

Sheffield, his long cheeks burning, stopped and lifted Mark bodily into the air. Holding him close, he made his way out of the room.

Tears squeezed out of Mark's eyes and just outside the door, he managed to speak with difficulty. "Let me down, I want to hear—I

want to hear what they say."

Sheffield said, "Don't go back in. Please, Mark."

"I won't. Don't worry. But—"

He didn't finish the but.

Inside the observatory room, Cimon, looking haggard, said, "All right. All right. Let's get back to the point. Come on, now. Quiet! I'm accepting Rodriguez's viewpoint. It's good enough for me and I don't suppose there's anyone else here who questions Rodriguez's professional opinion."

("Be Her not," muttered Rodriguez, his dark eyes hot with sustained fury.)

Cimon went on. "And since there's nothing to fear as far as infection is concerned, I'm telling Captain Follenbee that the crew may take surface leave without special protection against the atmosphere. Apparently the lack of surface leave is bad for morale. Are there any objections?"

There weren't any.

Cimon said, "I see no reason also why we can't pass on to the next stage of the investigation. I propose that we set up camp at the site of the original settlement. I appoint a committee of five to trek out there. Fawkes, since he can handle the coaster; Novee and Rodriguez to handle the biological data; Vernadsky and myself to take care of the chemistry and physics.

"The rest of you will, naturally, be apprised of all pertinent data in your own specialties, and will be expected to help in suggesting lines of attack, et cetera. Eventually, we may all be out there, but for the while only this small group. And until further notice, communication between ourselves and the main group on ship will be by radio only, since if the trouble, whatever it is, turns out to be

localized at settlement site, five men are enough to lose."

Novee said, "The settlement lived on Junior several years before dying out—over a year, anyway. It could be a long time before we are certain we're safe."

"We," said Cimon, "are not a settlement. We are a group of specialists who are looking for trouble. We'll find it if it's there to find, and when we do find it, we'll beat it. And it won't take us a couple of years either. Now, are there any objections?"

There were none, and the meeting broke up.

Mark Annuncio sat on his bunk, hands clasped about his knee, chin sunken and touching his chest. He was dry-eyed now, but his voice was heady with frustration.

"They're not taking me," he said. "They won't let me go with them."

Sheffield was in the chair opposite the boy, bathed in an agony of perplexity. He said, "They may take you later on."

"No," said Mark, fiercely, "they won't. They hate me. Besides, I want to go now. I've never been on another planet before. There's so much to see and find out. They've got no right to hold me back if I want to go."

Sheffield shook his head. Mnemonics were so firmly trained into this belief that they *must* collect facts, and that no one or nothing could or ought to stop them. Perhaps when they returned, he might recommend a certain degree of counter-indoctrination. After all, Mnemonics had to live in the real world, occasionally. More and more wit.h each generation, perhaps, as they grew to play an increasing role in the galaxy.

He tried an experiment. He said, "It may be dangerous, you know."

"I don't care. I've got to know. I've *got* to find out about this planet. Dr. Sheffield, you go to Dr. Cimon and tell him I'm going along."

"Now, Mark."

"If you don't, I will." He raised his small body from the bed in earnest of leaving that moment.

"Look, you're excited."

Mark's fists clenched. "It's not fair, Dr. Sheffield. I found this planet. It's *my* planet."

Sheffield's conscience hit him badly. What Mark saw was true in a way. No one, except Mark, knew that better than Sheffield. And no one, again except Mark, knew the history of Junior bet ter than Sheffield.

It was only in the last twenty years that, faced with the rising tide

of population pressure in the older planets and the recession of the Galactic frontier from those same older planets, that the Confederation of Worlds began exploring the galaxy systematically. Before that, human expansion went on hit or miss. Men and women in search of new land and a better life followed rumor as to the existence of habitable planets or sent out amateur groups to find something promising.

A hundred ten years before, one such group found Junior. They didn't report their find officially because they didn't want a crowd of land speculators, promotion men, exploiters and general riffraff following. In the next months, some of the unattached men arranged to have women brought in, so the settlement must have flourished for a while.

It was a year later when some had died and most or all the rest were sick and dying that they beamed a cry of help to Pretoria, the nearest inhabited planet. The Pretorian government was in some sort of crisis at the time and relayed the message to the Sector Government at Altmark. Pretoria then felt justified in forgetting the matter.

The Altmark government, acting in reflex fashion, sent out a medical ship to Junior. It dropped anti-sera and various other supplies. The ship did not land because the medical officer diagnosed the matter, from a distance, as influenza, and minimized the danger. The medical supplies, his report said, would handle the matter perfectly. It was quite possible that the crew of the ship, fearing contagion, had prevented a landing, but nothing in the official report indicated that.

There was a final report from Junior three months later to the effect that only ten people were left alive and that they were dying. They begged for help. This report was forwarded to Earth itself along with the previous medical report. The Central Government, however, was a maze in which reports regularly were forgotten unless someone had sufficient personal interest, and influence, to keep them alive. No one had much interest in a far-off, unknown planet with ten dying men and women on it.

Filed and forgotten—and for a century, no human foot was felt on Junior.

Then, with the new furore over Galactic exploration, hundreds of ships began darting through the empty vastness, probing here and there. Reports trickled in, then flooded in. Some came from Hidosheki Mikoyama, who passed through the Hercules Cluster twice—dying in a crash landing the second time, with his tight and despairing voice coming over the subether in a final message: "Surface coming up fast now; ship-walls frictioning into red he—" and no more.

Last year, the accumulation of reports, grown past any reasonable

human handling, was fed into the overworked Washington computer on a priority so high that there was only a five-month wait. The operators checked out the data for planetary habitability and to, Abou ben Junior led all the rest.

Sheffield remembered the wild hurrah over it. The stellar system was enthusiastically proclaimed to the galaxy and the name, Junior, was thought up by a bright young man in the Bureau of Outer Provinces who felt the need for personal friendliness between man and world. Junior's virtues were magnified. Its fertility, its climate —"a New England perpetual spring"—and most of all, its vast future, were put across without any feeling of need for discretion. For the next million years, propagandists declared, Junior will grow richer. While other planets age, Junior will grow younger as the ice recedes and fresh soil is exposed. Always a new frontier; always untapped resources.

For a million years!

It was the Bureau's masterpiece. It was to be the tremendously successful start of a program of government-sponsored colonization. It was to be the beginning, at long last, of the scientific exploitation of the galaxy for the good of humanity.

And then came Mark Annuncio, who heard much of all this and was as thrilled at the prospect as any Joe Earthman, but who one day thought of something he had seen while sniffing idly through the "dead-matter" files of the Bureau of Outer Provinces. He had seen a medical report about a colony on a planet of a system whose description and position in space tallied with that of the Lagrange group.

Sheffield remembered the day Mark came to him with that news.

He also remembered the face of the Secretary for the Outer Provinces when the news was passed on to *him.* He saw the secretary's square jaw slowly go slack and a look of infinite trouble come into his eyes.

The government was committed! It was going to ship millions of people to Junior. It was going to grant farmland and subsidize the first seed supplies, farm machinery, factories. Junior was going to be a paradise for numerous voters and a promise of more paradise for a myriad others.

If Junior turned out to be a killer planet for some reason or other, it would mean political suicide for all government figures concerned in the project. That meant some pretty big men, not least the Secretary for the Outer Provinces.

After days of checking and indecision, the secretary had said to Sheffield, "It looks as though we've got to find out what happened,

and weave it into the propaganda somehow. Don't you think we could neutralize it that way?"

"If what happened, isn't too horrible to neutralize."

"But it can't be, can it? I mean, what can it be?" The man was miserably unhappy.

Sheffield shrugged.

The secretary said, "See here. We can send a ship of specialists to the planet. Volunteers only and good reliable me, of course. We can give it the highest priority rating we can move, and Project Junior carries considerable weight, you know. We'll slow things up here, and hold on till they get back. That might work, don't you think?"

Sheffield wasn't sure, but he got the sudden dream of going on that expedition, of taking Mark with him. He could study a Mnemonic in an off-trail environment, and if Mark *should* be the means of working out the mystery—

From the beginning, a mystery was assumed. After all, people don't die of influenza. And the medical ship hadn't landed; they hadn't *really* observed what was going on. It was fortunate, indeed, that that medical man was now dead thirty-seven years, or he would be slated for court-martial now.

If Mark *should* help solve the matter, the Mnemonic Service would be enormously strengthened. The government had to be grateful.

But now—

Sheffield wondered if Cimon knew the story of how the matter of the first settlement had been brought to light. He was fairly certain that the rest of the crew did not. It was not something the Bureau would willingly speak about.

Nor would it be politic to use the story as a lever to pry concessions out of Cimon. If Mark's correction of Bureau "stupidity"—that would undoubtedly be the opposition's phrasing—were overpublicized, the Bureau would look bad. If they could be grateful, they could be vengeful, too. Retaliation against the Mnemonic Service would not be too petty a thing to expect.

Still—

Sheffield stood up with quick decision. "All right, Mark. I'll get you out to the settlement site. I'll get us both out there. Now you sit down and wait for me. Promise you'll try nothing on your own."

"All right," said Mark. He sat down on his bunk again.

"Well, now, Dr. Sheffield, what is it?" said Cimon. The astrophysicist sat at his desk, on which papers and film formed rigidly arranged heaps about a small Macfreed integrator and watched Sheffield step over the threshold.

Sheffield sat carelessly down upon the tautly yaaked top-sheet of Cimon's bunk. He was aware of Cimon's annoyed glance in that

direction and it did not worry him. In fact, he rather enjoyed it.

He said, “I have a quarrel with your choice of men to go to the expedition site. It looks as though you’ve picked two men for the physical sciences, and three for the biological sciences. Right?”

“Yes.”

“I suppose you think you’ve covered the ground like a Danielski ovospore at perihelion.”

“Oh, space! Have you anything to suggest?”

“I would like to come along myself.”

“Why?”

“You have no one to take care of the mental sciences.”

“The *menial* sciences! Good galaxy! Dr. Sheffield, five men are quite enough to risk. As a matter of fact, doctor, you and your… uh… ward were assigned to the scientific personnel of this ship by order of the Bureau of Outer Provinces without any prior consultation of myself. I’ll be frank—if I had been consulted, I would have advised against you. I don’t see the function of mental science in an investigation such as this, which, after all, is purely physical. It is too bad that the Bureau wishes to experiment with Mnemonics on an occasion such as this. We can’t afford scenes like that one with Rodriguez.”

Sheffield decided that Cimon did no I know of Mark’s connection with the original decision to send out the expedition.

He sat upright, hands on knees, elbows cocked outward and let a freezing formality settle over him. “So you wonder about the function of menial science in an investigation such as this, Dr. Cimon. Suppose I told you that the end of the first settlement might possibly be explained on a simple, psychological basis.”

“It wouldn’t impress me. A psychologist is a man who can explain anything and prove nothing.” Cimon smirked like a man who had made an epigram and was proud of it.

Sheffield ignored it. He said, “Let me go into a little detail. In what way is Junior different from every one of the eighty-three thousand inhabited worlds?”

“Our information is as yet incomplete. I cannot say.”

“Oh, cobber-vital s. You had the necessary information before you ever came here. Junior has two suns.”

“Well, of course.” But the astrophysicist allowed a trace of discomfiture to enter his expression.

“Colored suns, mind you. Colored suns. Do you know what that means? It means that a human being yourself or myself, standing in the full glare of the two suns, would cast two shadows. One blue-green, one red-orange. The length of each would naturally vary with the time of day. Have you taken the trouble to verify the color

distribution in those shadows? The what-do-you-call-em—reflection spectrum?"

"I presume," said Cimon, loftily, "they'd be-about the same as the radiation spectra of the suns. What are you getting at?"

"You should check. Wouldn't the air absorb some wave-lengths? And the vegetation? What's left? And take Junior's moon, Sister. I've been watching it in the last few nights. It's in colors, too, and the colors change position."

"Well, of course. It runs through its phases independently with each sun."

"You haven't changed its reflection spectrum, either, have you?"

"We have that somewhere. There are no points of interest about it. Of what interest is it to you, anyway?"

"My dear Dr. Cimon. It is a well established psychological fact that combinations of red and green colors exert a deleterious effect on mental stability. We have a case here where the red-green chromopsychic picture—to use a technical term—is inescapable and is presented under circumstances which seem most unnatural to the human mind. It is quite possible that chromopsychosis could reach the fatal level by inducing hypertrophy of the trinitarian follicles with consequent cerebric catatonia."

Cimon looked floored. He said, "I never heard of such a thing."

"Naturally not," said Sheffield—it was his turn to be lofty. "You are not a psychologist. Surely you are not questioning my professional opinion."

"No, of course not. But it's quite plain from the last reports of the expedition that they were dying of something that sounded like a respiratory disease."

"Correct, but Rodriguez denies that and you accepted his professional opinion."

"I didn't say it was a respiratory disease. I said it sounded like one. Where does your red-green cromothingumbob come in?"

Sheffield shook his head. "You laymen have your misconceptions. Granted that there is a physical effect, it still does not imply that there may not be a mental cause. The most convincing point about my theory is that red-green chromopsychosis has been recorded to exhibit itself first as a psychogenic respiratory infection. I take it you are not acquainted with psychogenics."

"No. It's out of my field."

"Well, yes. I should say so. Now my own calculations show me that under the heightened oxygen tension of this world the psychogenic respiratory infection is both inevitable and particularly severe. For instance, you've observed the moon—Sister, I mean—in

the last few nights."

"Yes, I have observed Ilium." Cimon did not forget Sister's official name, even now.

"You watched it closely and over lengthy periods? Under magnification?"

"Yes." Cimon was growing uneasy.

"Ah," said Sheffield, "now the moon colors in the last few nights have been particularly virulent. Surely you must be noticing just a small inflammation of the mucous membrane of the nose, a slight itching in the throat. Nothing painful yet, I imagine. Have you been coughing or sneezing? Is it a little hard to swallow?"

"I believe I—" Cimon swallowed, then drew in his breath sharply. He was testing.

Then he sprang to his feet, fists clenched and mouth working. "Great galaxy, Sheffield, you had no right to keep quiet about this. I can feel it now. What do I do, Sheffield? It's not incurable, is it? Damn it, Sheffield"—his voice went shrill—"why didn't you tell us this before?"

"Because," said Sheffield, calmly, "there's not a word of truth in anything I've said. Not one word. There's no harm in colors. Sit down, Dr. Cimon. You're beginning to look rather foolish to say the least."

"You said," said Cimon, thoroughly confused, and in a voice that was beginning to strangle, "that it was your professional opinion that __"

"My professional opinion! Space and little comets, Cimon, what's so magic about a professional opinion. A man can be lying or he can just plain be ignorant, even about the final details of his own specially. A professional can be wrong because he's ignorant of a neighboring specialty. He may be certain he's right and still be wrong.

"Look at you. You know all about what makes the universe tick and I'm lost completely except that I know that a star is something that twinkles and a light-year is something that's long. And yet you'll swallow gibberish-psychology that a freshman student of mentics would laugh his head off at. Don't you think, Cimon, it's time we worried less about professional opinion and more about over-all co-ordination?"

The color washed slowly out of Cimon's face. It turned waxy-pale. His lips trembled. He whispered, "You used professional status as a cloak to make a fool of me."

"That's about it," said Sheffield.

"I have never, *never*—" Cimon gasped and tried a new start. "I have never witnessed anything as cowardly and unethical."

"I was trying to make a point."

"Oh, you made it. You made it." Cimon was slowly recovering; his voice approaching normality. "You want me to take that boy of yours with us."

"That's right."

"No. No. Definitely no. It was no before you came in here and it's no a million times over now."

"What's your reason? I mean, before I came in."

"He's psychotic. He can't be trusted with normal people."

Sheffield said, grimly, "I'll thank you not to use the word, 'psychotic.' You are not competent to use it. If you're so precise in your feeling for professional ethics, remember to stay out of my specialty in my presence. Mark Annuncio is perfectly normal."

"After that scene with Rodriguez? Yes. Oh, yes."

"Mark had the right to ask his question. It was his job to do so and his duly. Rodriguez had no right to be boorish about it."

"I'll have to consider Rodriguez first, if you don't mind."

"Why? Mark Annuncio knows more than Rodriguez. For that matter, he knows more than you or I. Are you trying to bring back an intelligent report or to satisfy a petty vanity?"

"Your statements about what your boy knows do not impress me. I am quite aware he is an efficient parrot. He understands nothing, however. It is my duty to see to it that data are made available to him, because the Bureau has ordered that. They did not consult me, but very well. I will co-operate that far. He will receive his data here in the ship."

Sheffield said, "Not adequate, Cimon. He should be on the spot. He may see things our precious specialists will not."

Cimon said, freezingly, "Very likely. The answer, Sheffield, is no. There is no argument that can possibly persuade me." The astrophysicist's nose was pinched and white.

"Because I made a fool of you?"

"Because you violated the most fundamental obligation of a professional man. No respectable professional would ever use his specialty to prey on the innocence of a non-associate professional."

"So I made a fool of you."

Cimon turned away. "Please leave. There will be no further communication between us, outside the most necessary business, for the duration of the trip."

"If I go," said Sheffield, "the rest of the boys may get to hear about this."

Cimon started. “You’re going to repeat our little affair?” A cold smile rested on his lips, then went its transient and contemptuous way. “You’ll broadcast the dastard you were.”

“Oh. I doubt they’ll take it seriously. Everyone knows psychologists will have their little jokes. Besides they’ll be so busy laughing at you. You know—the very impressive Dr. Cimon scared into a sore throat and howling for mercy after a few mystic words of gibberish.”

“Who’d believe you?” cried Cimon.

Sheffield lifted his right hand. Between thumb and forefinger was a small rectangular object, studded with a line of control toggles.

“Pocket recorder,” he said. He touched one of the toggles and Cimon’s voice was suddenly saying, “Well, now, Dr. Sheffield, what is it?”

It sounded pompous, peremptory, and even a little smug.

“Give me that!” Cimon hurled himself at the lanky psychologist.

Sheffield held him off. “Don’t try force, Cimon. I was in amateur wrestling not too long ago. Look, I’ll make a deal with you.”

Cimon was still writhing toward him, dignity forgotten, panting his fury. Sheffield kept him at arm’s length, backing slowly.

Sheffield said, “Let Mark and myself come along and no one will ever see or hear this.”

Slowly, Cimon simmered down. He gasped, “Will you let me have it, then?”

“After Mark and I are out at the settlement site.”

“I’m to trust *you*.” He seemed to take pains to make that as offensive as possible.

“Why not? You can certainly trust me to broadcast this if you *don’t* agree. I’ll play it off for Vernadsky first. He’ll love it. You know his corny sense of humor.”

Cimon said in a voice so low it could hardly be heard, “You and the boy can come along.” Then, vigorously, “But remember this, Sheffield: When we get back to Earth, I’ll have you before the Central Committee of the G.A.A.S. That’s a promise. You’ll be de-professionalized.”

Sheffield said, “I’m not afraid of the Galactic Association for the Advancement of Science.” He let the syllables resound. “After all, what will you accuse me of? Are you going to play this recording before the Central Committee as evidence? Come, come, let’s be friendly about this. You don’t want to broadcast your own… uh… mistake before the primmest stuffed shirts in eighty-three thousand worlds.”

Smiling gently, he backed out the door.

But when he closed the door between himself and Cimon, his

smile vanished. He hadn't liked to do this. Now that he had done it, he wondered if it were worth the enemy he had made.

Seven tents had sprung up near the site of the original settlement on Junior. Nevile Fawkes could see them all from the low ridge on which he stood. They had been there seven days now.

He looked up at the sky. The clouds were thick overhead and pregnant with rain. That pleased him. With both suns behind those clouds, the diffused light was gray-white. It made things seem almost normal.

The wind was damp and a little raw, as though it were April in Vermont. Fawkes was a New Englander and he appreciated the resemblance. In four or five hours, Lagrange I would set and the clouds would turn ruddy while the landscape would become angrily dim. But Fawkes intended to be back in the tents by then.

So near the equator, yet so cool! Well, that would change with the millennia. As the glaciers retreated, the air would warm up and the soil would dry out. Jungles and deserts would make their appearance. The water level in the oceans would slowly creep higher wiping out numberless islands. The two large rivers would become an inland sea, changing the configuration of Junior's one large continent: perhaps making several smaller ones out of it.

He wondered if the settlement site would be drowned. Probably, he decided. Maybe that would take the curse off it.

He could understand why the Confederation were so anxious to solve the mystery of that first settlement. Even if it were a simple matter of disease, there would have to be proof. Otherwise, who would settle the world? The "sucker bait" superstition held for more than merely spacemen.

He, himself—Well, his first visit to the settlement site hadn't been so bad, though he had been glad to leave the rain and the gloom. Returning was worse. It was difficult to sleep with the thought that a thousand mysterious deaths lay all about, separated from him only by that insubstantial thing, time.

With medical coolness, Novee had dug up the moldering graves of a dozen of the ancient settlers. (Fawkes could not and did not look at the remains.) There had been only crumbling bones, Novee had said, out of which nothing could be made.

"There seem to be abnormalities of bone deposition," he said.

Then on questioning, he admitted that the effects might be entirely owing to a hundred years exposure to damp soil.

Fawkes had constructed a fantasy that followed him even into his waking hours. It concerned an elusive race of intelligent beings dwelling underground, never being seen but haunting that first

settlement a century back with a deadly perseverance.

He pictured a silent bacteriological warfare. He could see them in laboratories beneath the tree roots, culturing their molds and spores, waiting for one that could live on human beings. Perhaps they captured children to experiment upon.

And when they found what they were looking for, spores drifted silently out over the settlement in venomous clouds—

Fawkes knew all this to be fantasy. He had made it up in the wakeful nights out of no evidence but that of his quivering stomach. Yet alone in the forest, he whirled more than once in a sudden horror-filled conviction that bright eyes were staring out of the duskiness of a tree's Lagrange I shadow.

Fawkes' botanist's eye did not miss the vegetation he passed, absorbed as he was. He had deliberately struck out from camp in a new direction, but what he saw was what he had already seen. Junior's forests were neither thick nor tangled. They were scarcely a barrier to travel. The small trees—few were higher than ten feet, although their trunks were nearly as thick as the average Terrestrial tree—grew with considerable room between them.

Fawkes had constructed a rough scheme for arranging the plant-life of Junior into some sort of taxonomic order. He was not unaware of the fact that he might be arranging for his own immortality.

There was the scarlet "bayonet tree," for instance. Its huge, scarlet flowers attracted insectlike creatures that built small nests within it. Then—at what signal or what impulse Fawkes had not divined—all the flowers on some one given tree would grow a glistening white pistil over night. Each pistil stood two feet high, as though every bloom had been suddenly equipped with a bayonet.

By the next day, the flower had been fertilized, and the petals closed shut—about pistil, insects and all. The explorer, Makoyama, had named it the "bayonet tree," but Fawkes had made so bold as to rename it *Migrania Fawkesii*.

One thing the trees had in common. Their wood was incredibly tough. It would be the task of the biochemist to determine the physical state of the cellulose molecule and that of the biophysicist to determine how water could be transported through the wood's impervious texture. What Fawkes knew from experience was that blossoms would break if pulled, that stems would bend only with difficulty and break not at all. His pocketknife was blunted without as much as making a scratch.

The original settlers, in order to clear land, had obviously had to dig out the trees, root and all.

Compared to Earth, the woods were almost free of animal life.

That might be due to the glacial slaughter. Fawkes didn't know.

The insectlike creatures were all two winged. And those wings were feathery little fronds that beat noiselessly. None, apparently, were bloodsuckers.

The only major experience with animals that they had had was the sudden appearance of a large flying creature over the camp. It took highspeed photography to reveal the actual shape of the beast, for the specimen they observed, apparently overcome with curiosity, swooped low over the tents, again and again, at speeds too great for comfortable, naked-eye observation.

It was four-winged, the forward wings terminating in powerful claws, being membranous and nearly naked, serving the office of gliding planes. The hind pair, covered with a hairlike fuzz, beat rapidly.

Rodriguez suggested the name *Tetraplems.*

Fawkes paused in his reminiscence to look al a variety of grass he had not seen before. It grew in a dense patch and each stem forked in three toward the top. He brought out his magnifying glass, and felt one of the stems gingerly with his finger. Like other grasses on Junior, it—

It was here that he heard the rustle behind him—unmistakable. He listened for a moment, his own heartbeat drowning the sound, then whirled. A small manlike object dodged behind a tree.

Fawkes' breathing nearly stopped. He fumbled for the blaster he wore and his hand seemed to be moving through molasses.

Was his fantasy no fantasy at all? Was Junior inhabited after all?

Numbly, Fawkes found himself behind another tree. He couldn't leave it at this. He knew that. He could not report to the rest: I saw something alive. It might have been the answer to everything. But I was afraid and let it get away.

He would have to make some attempt.

There was a "chalice tree" just behind the tree that hid the creature. It was in bloom, the white and cream flowers lifted turgidly upward, waiting to catch the rain that would soon fall. There was the sharp tinkle of a breaking flower and cream slivers twisted and turned downward.

It wasn't imagination. Something *was* behind the tree.

Fawkes look a deep breath and dashed out, holding his blaster before him, nerving himself to shoot at the slightest sign of danger.

But a voice called out, "Don't. It's only I." A frightened, but definitely human face looked out from behind the tree.

It was Mark Annuncio.

Fawkes stopped-in mid-stride and I stared. Finally, he managed to croak, "What are you doing here?"

Mark said, staring at the blaster in the other's hand, "I was following you."

"Why?"

"To see what you would do. I was interested in what you might find. I thought if you saw me, you would send me away."

Fawkes became conscious of the weapon he was still holding and put it away. It took three tries to get it into the holster.

The first fat drops of rain began to fall. Fawkes said, harshly, "Don't say anything about this to the others."

He glared hostilely at the youngster and they walked back to camp separately and in silence.

A central hall of pre-fab had been added to the seven tents now, and the group was together within it, sitting about the long table.

It was a great moment, but a rather subdued one. Vernadsky, who had cooked for himself in his college days, was in charge. He lifted the steaming stew off the short-wave heater and said, "Calories, anyone."

He ladled the stuff lavishly.

"It smells very good," said Novee, doubtfully.

He lifted a piece of meat with his fork. It was purplish and still felt tough despite internal heating. The shredded herbs that surrounded it seemed softer, but looked less edible.

"Well," said Vernadsky, "eat it. Put it in your mouth. I've tasted it and it's good."

He crammed his mouth and chewed. He kept on chewing. "Tough, but good."

Fawkes said, gloomily, "It'll probably kill us."

"Nuts," said Vernadsky. "The rats have been living on it for two weeks."

"Two weeks isn't much," said Novee.

Rodriguez said, "Well, one bite won't kill. Say, it *is* good."

And it was. They all agreed, eventually. So far, it seemed that whenever Junior's life could be eaten at all, it was good. The grains were almost impossible to grind into flour, but that done, a protein-high cake could be baked. There was some on the table now; dark and heavy. It wasn't bad, either.

Fawkes had studied the herb life on Junior and come to the conclusion that an acre of Junior's surface, properly seeded and watered, could support ten times the number of grazing animals that an acre of Earthly alfalfa could.

Sheffield had been impressed; spoke of Junior as the granary of a hundred worlds, but Fawkes dismissed his own statements with a shrug.

He said, "Sucker bait."

About a week earlier, the party had been agitated by the sudden refusal of the hamsters and white rats to touch certain new herbs Fawkes had brought in. Mixing small quantities with regular rations had resulted in the death of those that fed on it.

Solution?

Not quite. Vernadsky came in a few hours later and said, calmly, "Copper, lead, and mercury."

"What?" said Cimon.

"Those plants. They're high in heavy metals. Probably an evolutionary development to keep from being eaten."

"The first settlers—" began Cimon.

"No. That's impossible. Most of the plants are perfectly all right. Just these and no one would eat them."

"How do you know?"

"The rats didn't."

"They're just rats."

It was what Vernadsky was waiting for. He said, dramatically, "You may hail a modest martyr to science. I tasted the stuff."

"What?" yelled Novee.

"Just a lick. Don't worry. I'm the careful-type martyr. Anyway, the stuff is as bitter as strychnine. What do you expect? If a plant is going to fill itself with lead just to keep the animals off, what good does it do the plant to have the animal find out by dying after he's eaten it? A little bitter stuff in addition acts as a warning. The combination warning and punishment does the trick."

"Besides," said Novee, "it wasn't heavy metal poisoning that killed the settlers. The symptoms aren't right for it."

The rest knew the symptoms well enough. Some in lay terms and some in more technical language. Difficult and painful breathing that grew steadily worse. That's what it amounted to.

Fawkes put down his fork. "Look here, suppose this stuff contains some alkaloid that paralyzes the nerves that control the lung muscles."

"Rats have lung muscles," said Vernadsky. "It doesn't kill them."

"Maybe it's a cumulative thing."

"All right. All right. Any time your breathing gels painful, go back to ship rations and see if you improve. But no fair counting psychosomatics."

Sheffield grunted, "That's my job. Don't worry about it."

Fawkes drew a deep breath, then another. Glumly, he put another piece of meat into his mouth.

At one corner of the table, Mark Annuncio, eating more slowly than the rest, thought of Norris Vinograd's monograph on "Taste and Smell." Vinograd had made a taste-smell classification based on enzyme inhibition patterns within the taste buds. Annuncio did not

know what that meant exactly but he remembered the symbols, their values, and the descriptive definitions.

While he placed the taste of the stew to three subclassifications, he finished his helping. His jaws ached faintly because of the difficult chewing.

Evening was approaching and Lagrange I was low in the sky. It had been a bright day, reasonably warm, and Boris Vernadsky felt pleased. He had made interesting measurements and his brilliantly colored sweater had showed fascinating changes from hour to hour as the suns' positions shifted.

Right now, his shadow was a long red thing, with the lowest third of it gray, where the Lagrange II shadow coincided. He held out one arm and it cast two shadows. There was a smeared orange one some fifteen feet away and a denser blue one in the same direction but only five feet away. If he had time, he could work out a beautiful set of shadowgrams.

He was so pleased with the thought that he felt no resentment at seeing Mark Annuncio skirting his trail in the distance.

He put down his nucleometer and waved his hand. "Come here!"

The youngster approached diffidently. "Hello."

"Want something?"

"Just… just watching."

"Oh? Well, go ahead and watch. Do you know what I'm doing?"

Mark shook his head.

"This is a nucleometer," said Vernadsky. "You jab it into the ground like this. It's got a force-held generator at the top so it will penetrate any rock." He leaned on the nucleometer as he spoke, and it went two feet into the stony outcropping. "See?"

Mark's eyes shone, and Vernadsky felt pleased. The chemist said, "Along the sides of the uniped are microscopic atomic furnaces, each of which vaporizes about a million molecules or so in the surrounding rock and decomposes them into atoms. The atoms are then differentiated in terms of nuclear mass and charge and the results may be read off directly on the dials above. Do you follow all that?"

"I'm not sure. But it's a good thing to know."

Vernadsky smiled, and said, "We end up with figures on the different elements in the crust. It's pretty much the same on all oxygen/water planets."

Mark said, seriously, "The planet with the most silicon I know of is Lepta with 32.765 per cent. Earth is only 24.862. That's by weight."

Vernadsky's smile faded. He said, dryly, "You have the figures on all the planets, pal?"

"Oh, no. I couldn't. I don't think they've all been surveyed.

Bischoon and Spenglow's 'Handbook of Planetary Crusts' only lists figures for twenty-one thousand eight hundred and fifty-four planets. I know all those, of course."

Vernadsky, with a definite feeling of deflation, said, "Now Junior has a more even distribution of elements than is usually met up with. Oxygen is low. So far my average is a lousy 42.113. So is silicon, with 22.722. The heavy metals are ten to a hundred times as concentrated as on Earth. That's not just a local phenomenon, either, since Junior's over-all density is five per cent higher than Earth's." Vernadsky wasn't sure why he was telling the kid all this. Partly, he felt, because it was good to find someone who would listen. A man gets lonely and frustrated when there is no one of his own field to talk to.

He went on, beginning to relish the lecture. "On the other hand, the lighter elements are also better distributed. The ocean solids aren't predominantly sodium chloride as on Earth. Junior's oceans contain a respectable helping of magnesium salts. And take what they call the 'rare lights.' Those are the elements lithium, beryllium, and boron. They're lighter than carbon, all of them, but they are of very rare occurrence on Earth, and in fact, on all planets. Junior, on the other hand, is quite rich in them. The three of them total almost four-tenths of a per cent of the crust as compared to about four-thousands on Earth."

Mark plucked at the other's sleeve. "Do you have a list of figures on all the elements? May I see?"

"I suppose so." He took a folded piece of paper out of his hip-pocket.

He grinned as Mark took the sheet and said, "Don't publish those figures before I do."

Mark glanced at them once and returned the paper.

"Are you through?" asked Vernadsky in surprise.

"Oh, yes," said Mark, thoughtfully, "I have it all." He turned on his heel and walked away with no word of parting.

The last glimmer of Lagrange I faded below the horizon.

Vernadsky gazed after Mark and shrugged. He plucked his nucleometer out of the ground, and followed after, walking back toward the tents.

Sheffield was moderately pleased.. Mark had been doing better than expected. To be sure, he scarcely talked but that was not very serious. At least, he showed interest and didn't sulk. And he threw no tantrums.

Vernadsky was even telling Sheffield that last evening Mark had spoken to him quite normally, without raised voices on either side, about planetary crust analyses. Vernadsky had laughed a bit about it,

saying that Mark knew the crust analyses of twenty thousand planets and some day he'd have the boy repeat them all just to see how long it would take.

Mark, himself, had made no mention of the matter. In fact, he had spent the morning sitting in his tent. Sheffield had looked in, seen him on his cot, staring at his feet, and had left him to himself.

What he really needed at the moment, Sheffield felt, was a bright idea for himself—a really bright one.

So far, everything had come to nothing—a whole month of everything. Rodriguez held fast against any infection. Vernadsky absolutely barred food poisoning. Novee shook his head with vehement negativeness at suggestions of disturbed metabolism. "Where's the evidence?" he kept saying.

What it amounted to was that every physical cause of death was eliminated on the strength of expert opinion. But men, women, and children had died. There must be a reason. Could it be psychological?

He had satirized the matter to Cimon for a purpose before they had come out here, but it was now time and more than time to be serious about it. Could the settlers have been driven to suicide? Why? Humanity had colonized tens of thousands of planets without its having seriously affected mental stability. In fact, the suicide rate, as well as the incidence of psychoses, were higher on Earth than anywhere else in the galaxy.

Besides, the settlement had called frantically for medical help. They didn't want to die.

Personality disorders? Something peculiar to that one group? Enough to affect over a thousand people to the death. Unlikely. Besides, how could any evidence be uncovered. The settlement site had been ransacked for any films or records, even the most frivolous. Nothing. A century of dampness left nothing so fragile as purposeful records.

So he was working in a vacuum. He felt helpless. The others, at least, had data; something to chew on. He had nothing.

He found himself at Mark's tent again and looked inside automatically. It was empty. He looked about and spied Mark walking out of the camp and into the woods.

Sheffield cried out after him, "Mark! Wait for me!"

Mark stopped, made as though to go on, thought better of it, and let Sheffield's long legs consume the distance between them.

Sheffield said, "Where are you off to." (Even after running, it was unnecessary to pant in Junior's rich atmosphere.)

Mark's eyes were sullen, "To the air-coaster."

"Oh?"

"I haven't had a chance to look at it."

“Why, of course you’ve had a chance,” said Sheffield. “You were watching Fawkes like a hawk on the trip over.”

Mark scowled. “Everyone was around. I want to see it for myself.”

Sheffield felt disturbed. The kid was angry. He’d better tag along and try to find out what was wrong. He said, “Come to think of it, I’d like to see the coaster myself. You don’t mind having me along, do you?”

Mark hesitated. Then he said, “We-ell. If you want to.” It wasn’t exactly a gracious invitation.

Sheffield said, “What are you carrying, Mark?”

“Tree branch. I cut it off with the buzz-field gun. I’m taking it with me just in case anyone wants to stop me.” He swung it so that it whistled through the thick air.

“Why should anyone want to stop you, Mark? I’d throw it away. It’s hard and heavy. You could hurt someone.”

Mark was striding on. “I’m not throwing it away.”

Sheffield pondered briefly, then decided against a quarrel at the moment. It would be better to get to the basic reason for this hostility first. “All right,” he said.

The air-coaster lay in a clearing, its clear metal surface throwing back green highlights. (Lagrange II had not yet risen.)

Mark looked carefully about.

“There’s no one in sight, Mark,” said Sheffield.

They climbed aboard. It was a large coaster. It had carried seven men and the necessary supplies in only three trips.

Sheffield looked at its control panel with something quite close to awe. He said, “Imagine a botanist like Fawkes learning to run one of these things. It’s so far outside his specially.”

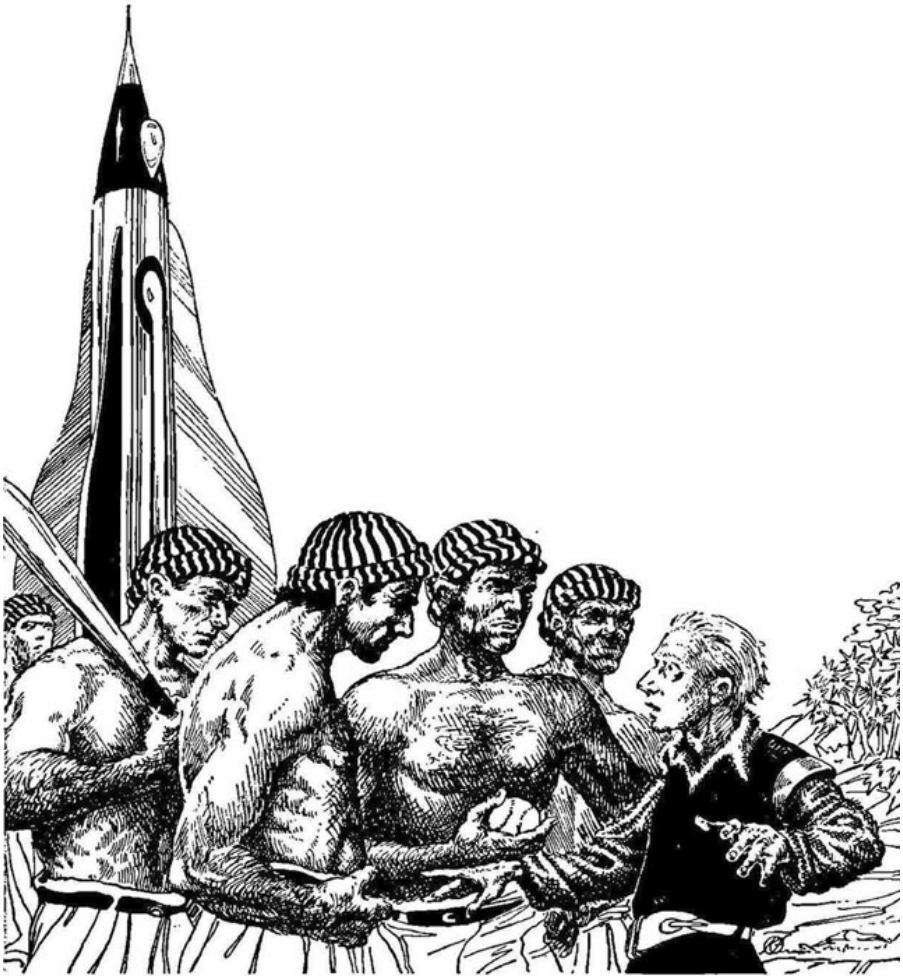
“I can run one,” said Mark, suddenly.

Sheffield stared at him in surprise. “You can?”

“I watched Dr. Fawkes when we came. I know everything he did. And he has a repair manual for the coaster. I sneaked that out once and read it.”

Sheffield said lightly, “Well, that’s very nice. We have a spare navigator for an emergency, then.”

He turned away from Mark then, so he never saw the tree limb as it came down on his head. He didn’t hear Mark’s troubled voice saying, “I’m sorry, Dr. Sheffield.” He didn’t even, properly speaking, feel the concussion that knocked him out.



It was the jar of the coaster's landing, Sheffield later thought, that first brought consciousness back. It was a dim aching sort of thing that had no understanding in it at first.

The sound of Mark's voice was floating up to him. That was his first sensation. Then as he tried to roll over and get a knee beneath him, he could feel his head throbbing.

For a while, Mark's voice was only a collection of sounds that meant nothing to him. Then they began to coalesce into words. Finally, when his eyes fluttered open and light entered stabbingly so that he had to close them again, he could make out sentences. He remained where he was, head hanging, one quivering knee holding him up.

Mark was saying in a breathless, high-pitched voice, "…A thousand people all dead. Just graves. And nobody knows why."

There was a rumble Sheffield couldn't make out. A hoarse deep

voice.

Then Mark again, “It’s true. Why do you suppose all the scientists are aboard?”

Sheffield lifted achingly to his feet and rested against one wall. He put his hand to his head and it came away bloody. His hair was caked and matted with it. Groaning, he staggered toward the coaster’s cabin door. He fumbled for the hook and yanked it inward.

The landing ramp had been lowered. For a moment, he stood there, swaying, afraid to trust his legs.

He had to take in everything by installments. Both suns were high in the sky and a thousand feet away, the giant steel cylinder of the *Triple G* reared its nose high above the runty trees that ringed it.

Mark was at the foot of the ramp, semicircled by members of the crew. The crewmen were stripped to the waist and browned nearly black in the ultraviolet of Lagrange I. (Thanks only to the thick atmosphere and the heavy ozone coating in the upper reaches for keeping UV down to a livable range.)

The crewman directly before Mark was leaning on a baseball bat. Another tossed a ball in the air and caught it. Many of the rest were wearing gloves.

“Funny,” thought Sheffield, erratically, “Mark landed right in the middle of a ball park.”

Mark looked up and saw him. He screamed, excitedly, “All right, ask him. Go ahead, ask him. Dr. Sheffield, wasn’t there an expedition to this planet once and they all died mysteriously?”

Sheffield tried to say: Mark, what are you doing? He couldn’t. When he opened his mouth only a moan came out.

The crewman with the bat said, “Is this little gumboil telling the truth, mister?”

Sheffield held on to the railing with two perspiring hands. The crewman’s face seemed to waver. The face had thick lips on it and small eyes buried under bristly eyebrows. It wavered very badly.

Then the ramp came up and whirled about his head. There was ground gripped in his hands suddenly and a cold ache on his cheekbone. He gave up the light and let go of consciousness again.

He came awake less painfully the second time. He was in bed now and two misty faces leaned over him, A long, thin object passed across his line of vision and a voice, just heard above the humming in his ears, said, “He’ll come to, now, Cimon.”

Sheffield closed his eyes. Somehow he seemed to be aware of the fact that his skull was thoroughly bandaged.

He lay quietly for a minute, breathing deeply. When he opened his eyes again, the faces above him were clear. There was Novee’s round face, a small, professionally-serious line between his eyes that

cleared away when Sheffield said, “Hello, Novee.”

The other man was Cimon, jaws set and angry, yet with a look of something like satisfaction in his eyes.

Sheffield said, “Where are we?”

Cimon said, coldly, “In space, Dr. Sheffield. Two days out in space.”

“Two days out—” Sheffield’s eyes widened and he tried to rise.

Novee interposed. “You’ve had a bad concussion, nearly a fracture, Sheffield. Take it easy.”

“Well, what hap—Where’s Mark? *Where’s Mark?*”

“Easy. Easy now.” Novee put a hand on each of Sheffield’s shoulders and pressed him down.

Cimon said, “Your boy is in the brig. In case you want to know why, he deliberately caused mutiny on board ship, thus endangering the safety of five men. We were almost marooned at our temporary camp, because the crew wanted to leave immediately. He persuaded them, the captain did, to pick us up.”

Sheffield remembered now, very vaguely. There was just that fuzzy memory of Mark and a man with a bat. Mark saying “…A thousand people all dead—”

The psychologist hitched himself up on one elbow with a tremendous effort. “Listen, Cimon, I don’t know why Mark did it, but let me talk to him. I’ll find out.”

Cimon said, “No need of that. It will all come out at the trial.”

Sheffield tried to brush Novee’s restraining arm to one side. “But why make it formal? Why involve the Bureau? We can settle this among ourselves.”

“That’s exactly what we intend to do. The captain is empowered by the laws of space to preside over trials involving crimes and misdemeanors in deep space.”

“The captain. A trial here? On board ship? Cimon, don’t let him do it. It will be murder.”

“Not at all. It will be a fair and proper trial. I’m in full agreement with the captain. Discipline demands a trial.”

Novee said, uneasily, “Look, Cimon, I wish you wouldn’t. He’s in no shape to take this.”

“Too bad,” said Cimon.

Sheffield said, “But you don’t understand. I’m responsible for the boy.”

“On the contrary, I do understand,” said Cimon. “It’s why we’ve been waiting for you to regain consciousness. You’re standing trial with him.”

“What!”

“You are generally responsible for his actions. Specifically, you

were with him when he stole the air-coaster. The crew saw you at the coaster's cabin door while Mark was inciting mutiny."

"But he cracked my skull in order to take the coaster. Can't you see that's the act of a seriously disturbed mind. He can't be held responsible."

"We'll let the captain decide, Sheffield. You stay with him, Novee." He turned to go.

Sheffield called on what strength he could muster. "Cimon," he shouted, "you're doing this to get back at me for the lesson in psychology I taught you. You're a narrow… petty—"

He fell back on his pillow, breathless.

Cimon, from the door, said, "And by the way, Sheffield, the penalty for inciting mutiny on board ship is death!"

Well, it was a *kind* of trial, Sheffield thought grimly. Nobody was following accurate legal procedure, but then, the psychologist felt certain, no one knew the accurate legal procedure, least of all the captain.

They were using the large assembly room where, on ordinary cruises, the crew got together to watch subetheric broadcasts. At this time, the crew was rigidly excluded, though all the scientific personnel were present.

Captain Follenbee sat behind a desk just underneath the subetheric reception cube. Sheffield and Mark Annuncio sat by themselves at his left, faces toward him.

The captain was not at ease. He alternated between informal exchanges with the various "witnesses" and sudden super-judicial blasts against whispering among the spectators.

Sheffield and Mark, having met one another in the "courtroom" for the first time since the flight of the aircoaster, shook hands solemnly on the former's initiative. Mark had hung back at first, looking up briefly at the crisscross of tape still present on the shaven patch on Sheffield's skull.

"I'm sorry, Dr. Sheffield. I'm very sorry."

"It's all right, Mark. How have they been treating you?"

"All right, I guess."

The captain's voice boomed out, "No talking among the accused."

Sheffield retorted in a conversational tone, "Listen, captain, we haven't had lawyers. We haven't had time to prepare a case."

"No lawyers necessary," said I lie captain. "This isn't a court trial on Earth. Captain's investigation. Different thing. Just interested in facts, not legal fireworks. Proceedings can be reviewed back on Earth."

"And we can be dead by then," said Sheffield, hotly.

“Let’s get on with it,” said the cap-lain, banging his desk with an aluminum T-wedge.

Cimon sat in the front row of the audience, smiling thinly. It was he that Sheffield watched most uneasily.

The smile never varied as witnesses were called upon to state that they had been informed that the crew was on no account to be told of the true nature of the trip; that Sheffield and Mark had been present when told. A mycologist testified to a conversation he had had with Sheffield which indicated the latter to be well aware of the prohibition.

It was brought out that Mark had been sick for most of the trip out to Junior, that he had behaved erratically after they had landed on Junior.

“How do you explain all lhat?” asked the captain.

From the audience, Cimon’s calm voice suddenly sounded. “He was frightened. He was willing to do anything that would get him off the planet.”

Sheffield sprang to his feet. “His remarks are out of order. He’s not a witness.”

The captain banged his T-wedge and said, “Sit down!”

The trial went on. A crew member was called in to testify that Mark had informed them of the first expedition and that Sheffield had stood by while that was done.

Sheffield cried, “I want to cross-examine!”

The captain said, “You’ll get your chance later.”

The crewman was shooed out.

Sheffield studied the audience. It seemed obvious that their sympathy was not entirely with the captain. He was psychologist enough to be able to wonder, even at this point, how many of them were secretly relieved at having left Junior, and actually grateful to Mark for having precipitated the matter as he did. Then, too, the obvious kangaroo nature of the court didn’t sit well with them. Vernadsky was frowning darkly, while Novee stared at Cimon with obvious distaste.

It was Cimon who worried Sheffield. He, the psychologist felt, must have argued the captain into this and it was he who might insist on the extreme penalty. Sheffield was bitterly regretful of having punctured the man’s pathological vanity.

But what really puzzled Sheffield above all was Mark’s attitude. He was showing no signs of spacesickness or of unease of any kind. He listened to everything closely but seemed moved by nothing. He acted as though nothing mundane concerned him at the moment; as though certain information he himself held made everything else of no

account.

The captain banged his T-wedge and said, “I guess we have it all. Facts all clear. No argument. We can finish this.”

Sheffield jumped up again, “Hold on. Aren’t we getting our turn?”

“Quiet,” ordered the captain.

“*You* keep quiet.” Sheffield turned to the audience. “Listen, we haven’t had a chance to defend ourselves. We haven’t even had the right to cross-examine. Is that just?”

There was a murmur that buzzed up above the sound of the T-wedge.

Cimon said, coldly, “What’s there to defend?”

“Maybe nothing,” shouted back Sheffield, “in which case what have you to lose by hearing us? Or are you afraid we have considerable to defend?”

Individual calls from the audience were sounding now. “Let him talk!”

Cimon shrugged, “Go ahead.”

The captain said, sullenly, “What do you want to do?”

Sheffield said, “Act as my own lawyer and call Mark Annuncio as my principal witness.”

Mark stood up, calmly enough. Sheffield turned his chair to face the audience and motioned him down again.

Sheffield decided there was no use in trying to imitate the courtroom dramas he had watched on the sub-ether. Pompous questions on name and condition of past life would get nowhere. Better to be direct.

So he said, “Mark, did you know what would happen when you told the crew about the first expedition?”

“Yes, Dr. Sheffield.”

“Why did you do it then?”

“Because it was important that we all get away from Junior without losing a minute. Telling the crew the truth was the fastest way of getting us off the planet.”

Sheffield could feel the bad impression that answer made on the audience, but he could only follow his instinct. That, and his psychologist’s decision that only special knowledge could make Mark or any Mnemonic so calm in the face of adversity. After all, special knowledge was their business.

He said, “Why was it important to leave Junior, Mark?”

Mark didn’t flinch. He looked straight at the watching scientists. “Because I know what killed the first expedition, and it was only a question of time before it killed us. In fact, it may be too late already. We may be dying now. We may, every one of us, be dead men.”

Sheffield let the murmur from the audience well up and subside.

Even the captain seemed shocked into T-wedge immobility while Cimon's smile grew quite faint.

For the moment, Sheffield was less concerned with Mark's "knowledge," whatever it was, than that he had acted independently on the basis of it. It had happened before. Mark had searched the ship's log on the basis of a theory of his own. Sheffield felt pure chagrin at not having probed that tendency to the uttermost then and there.

So his next question, asked in a grim enough voice, was, "Why didn't you consult me about this, Mark?"

Mark faltered a trifle. "You wouldn't have believed me. It's why I had to hit you to keep you from stopping me. None of them would have believed me. They all hated me."

"What makes you think they hated you?"

"Well, you remember about Dr. Rodriguez."

"That was quite a while ago. The others had no arguments with you."

"I could tell the way Dr. Cimon looked at me. And Dr. Fawkes wanted to shoot me with a blaster."

"What?" Sheffield whirled, forgetting in his own turn any formality due the trial. "Say, Fawkes, did you try to shoot him?"

Fawkes stood up, face crimson, as all turned to look at him. He said, "I was out in the woods and he came sneaking up on me. I thought it was an animal and took precautions. When I saw it was he, I put the blaster away."

Sheffield turned back to Mark, "Is that right?"

Mark turned sullen again, "Well—I asked Dr. Vernadsky to see some data he had collected and he told me not to publish it before he did. He tried to make out that I was dishonest."

"For the love of Earth, I was only joking," came a yell from the audience.

Sheffield said, hurriedly, "Very well, Mark, you didn't trust us and you felt you had to take action on your own. Now, Mark, let's get to the point. What did you think killed the first settlers?"

Mark said, "It might have killed the explorer, Makoyama, too, for all I know except that he died in a crash two months and three days after reporting on Junior, so we'll never know."

"All right, but what is it you're talking about?"

A hush fell over everyone.

Mark looked about and said, "The dust."

Sheffield said, "What do you mean?"

"The dust! The dust in the air. It has beryllium in it. Ask Dr. Vernadsky."

Vernadsky stood up and pushed his way forward. "What's this?"

“Sure,” said Mark. “It was in the data you showed me. Beryllium was very high in the crust, so it must be in the dust in the air as well.”

Sheffield said, “What if beryllium is there? Let me ask the questions, Vernadsky. Please.”

“Beryllium poisoning, that’s what. If you breathe beryllium dust, nonhealing granulomata, whatever they are, form in the lungs. Anyway, it gets hard to breathe and then you die.”

A new voice, quite agitated, joined the melee. “What are you talking about? You’re no physician.”

“I know that,” said Mark, earnestly, “but I once read a very old book about poisons. It was so old, it was printed on actual sheets of paper. The library had some and I went through them, because it was such a novelty, you know.”

“All right,” said Novee, “what did you read? Can you tell me?”

Mark’s chin lifted, “I can quote it. Word for word. ‘A surprising variety of enzymatic reactions in the body are activated by any of a number of divalent metallic ions of similar ionic radius. Among these activators are magnesium, manganous, zinc, ferrous, cobaltous, and nickelous ions, as well as others. Against all of these, the beryllium ion, which has a similar charge and size, acts as an inhibitor. Beryllium, therefore, serves to derange a number of enzyme-calalyzed reactions. Since the lungs have, apparently, no way of excreting beryllium, diverse metabolic derangements causing serious illness and death can result from inhaling dust containing certain beryllium salts. Cases exist in which one known exposure has resulted in death. The onset of symptoms is insidious, being delayed sometimes for as long as three years after exposure. Prognosis is not good.’ ”

The captain leaned forward in agitation. “Novee, is he making sense?”

Novee said, “I don’t know if he’s right or not, but there’s nothing absurd in what he’s saying.”

Sheffield said sharply, “You mean you don’t know if beryllium is poisonous or not.”

“No, I don’t,” said Novee.

“Isn’t beryllium used for anything?” Sheffield turned to Vernadsky, “Is it?”

Vernadsky said in vast surprise. “No, it isn’t. Damn it, I can’t think of a single use. I tell you what, though. In the early days of atomic power, it was used in the primitive uranium piles as a neutron decelerator, along with other things like paraffin and graphite. I’m almost sure of that.”

“It isn’t used now, though?” asked Sheffield.

“No.”

An electronics man said, quite suddenly, “I think beryllium-zinc

coatings were used in the first fluorescent lights."

"No more, though?" asked Sheffield.

"No."

Sheffield said, "Well, then, listen, all of you. In the first place, anything Mark quotes is accurate. That's what the book said, if he says so. It's my opinion that beryllium *is* poisonous. In ordinary life it doesn't matter because the beryllium content of the soil is so low. When man concentrates beryllium to use in nuclear piles or in fluorescent lights or even in alloys, he comes across the toxicity and looks for substitutes.

"He finds substitutes, forgets about beryllium, and eventually forgets about its toxicity. And then we come across an unusual beryllium-rich planet like Junior and we can't figure out what hits us. It takes a Mnemonic to remember the old, forgotten data."

Cimon didn't seem to be listening. He said, in a low voice, "What does that mean, 'prognosis is not good'?"

Novee said, abstractedly, "It means that if you've got beryllium poisoning, you won't recover."

Cimon fell back in his chair, chewing his lip.

Novee said to Mark, "I suppose the symptoms of beryllium poisoning—"

Mark said at once, "I can give you the full list. I don't understand the words but—"

"Was one of them 'dyspnea'?"

"Yes."

Novee sighed and said, "I say that we get back to Earth as quickly as possible and get under medical investigation."

Cimon said, weakly, "But if we won't recover, what use is it?"

Novee said, "Medical science has advanced since the days of books printed on paper. Besides, we may not have received the toxic dose. The first settlers survived for over a year of continuous exposure. We've had only a month, thanks to Mark Annuncio's quick and drastic action."

Fawkes, miserably unhappy, yelled, "Captain, get us back to Earth."

It amounted to the end of the trial. Sheffield and Mark walked out among the first.

Cimon was the last, with the gait of a man already dead in all but fact.

The Lagrange system was only a star lost in the receding cluster.

Sheffield looked at that large patch of light and said, "So beautiful a planet." He sighed. "Well, let's hope we live. In any case, the government will watch out for beryllium-high planets in the future.

There'll be no catching mankind with that particular variety of sucker bait any more."

Mark did not respond to that idealism. The trial was over; the excitement was gone. There were tears in his eyes. He could only think that he might die; and that if he did, there were so many things, so many, many things in the universe, that he would never learn.